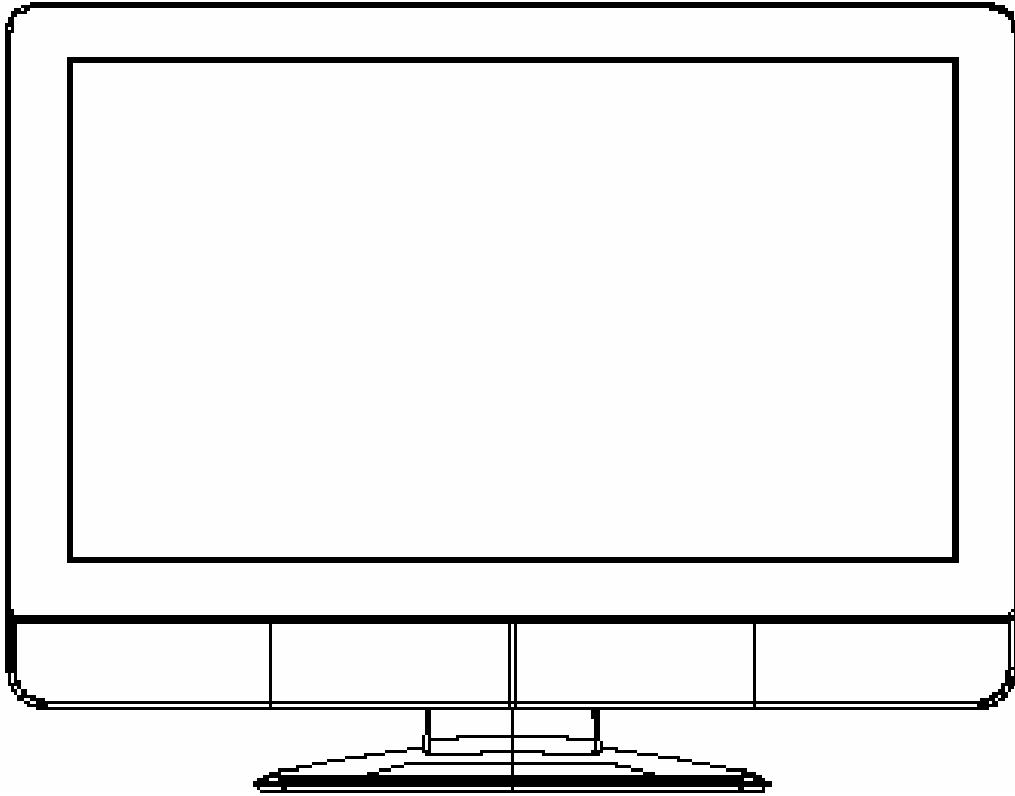


Service Manual



Model #: VIZIO VX37L HDTV10A

V, Inc

320A Kalmus Drive Costa Mesa, CA 92626

TEL : +714-668-0588 FAX :+714-668-9099

Top Confidential

Table of Contents

CONTENTS	PAGE
----------	------

Sections

1. Features	1-1
2. Specifications	2-1
3. On Screen Display	3-1
4. Factory Preset Timings	4-1
5. Pin Assignment	5-1
6. Main Board I/O Connections	6-1
7. Theory of Circuit Operation	7-1
8. Waveforms	8-1
9. Trouble Shooting	9-1
10. Block Diagram	10-1
11. Spare parts list	11-1
12. Complete Parts List	12-1

Appendix

1. Main Board Circuit Diagram
 2. Main Board PCB Layout
 3. Assembly Explosion Drawing
- Block Diagram

COPYRIGHT © 2000 **V, INC.** ALL RIGHTS RESERVED.

IBM and IBM products are registered trademarks of International Business Machines Corporation.

Macintosh and Power Macintosh are registered trademarks of Apple Computer, Inc.

VINC and VINC products are registered trademarks of V, Inc.

VESA, EDID, DPMS and DDC are registered trademarks of Video Electronics Standards Association (VESA).

Energy Star is a registered trademark of the US Environmental Protection Agency (EPA).

No part of this document may be copied, reproduced or transmitted by any means for any purpose without prior written permission from VINC.

FCC INFORMATION

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause unacceptable interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures -- reorient or relocate the receiving antenna; increase the separation between equipment and receiver; or connect the into an outlet on a circuit different from that to which the receiver is connected.

FCC WARNING

To assure continued FCC compliance, the user must use a grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. Also, any unauthorized changes or modifications to Amtrak products will void the user's authority to operate this device. Thus VINC Will not be held responsible for the product and its safety.

CE CERTIFICATION

This device complies with the requirements of the EEC directive 89/336/EEC with regard to "Electromagnetic compatibility."

SAFETY CAUTION

Use a power cable that is properly grounded. Always use the AC cords as follows – USA (UL); Canada (CSA); Germany (VDE); Switzerland (SEV); Britain (BASEC/BS); Japan (Electric Appliance Control Act); or an AC cord that meets the local safety standards.

Chapter 1 Features

1. Built in TV channel selector for TV viewing.
2. Simultaneous display of PC and TV images.
3. Connectable to PC's analog RGB port.
4. Built in S-video, HDTV, composite video, HDMI and TV out.
5. Built in auto adjust function for automatic adjustment of screen display.
6. Smoothing function enables display of smooth texts and graphics even if image with resolution lower than 1366x768 is magnified.
7. Advanced video functions for personal favor.
8. Picture In Picture (PIP) function to show TV or VCR images.
9. Power saving to reduce consumption power too less than 3W.
10. On Screen Display: user can define display mode (i.e. color, brightness, contrast, sharpness, backlight), sound setting, PIP, TV channel program, aspect and gamma or reset all setting.

Chapter 2 Specification

1. TFT-LCD CHARACTERISTICS

Model Name: LPL LC370WX1-SLA1 (Vendor: LG. Philips LCD Co., Ltd)

Size: 37.02inch

Display Size: 37.02 inches (940.3mm) diagonal

Outline Dimension: 877.0 mm (H) x 516.8 mm (V) x 55.5 mm (D) (Typ.)

Pixel Pitch: 0.200mm x 0.600mm x RGB

Pixel Format: 1366 horiz. By 768 vert. Pixels RGB strip arrangement

Display Operating Mode: Transmissive mode, normally Black

Surface Treatment: Hard Coating (3H) ,Anti-glare treatment of the front polarizer.

2. TFT-LCD OPTICAL CHARACTERISTICS

Contrast ratio: 1.CR : 1400(Typ) 2. CR WITH AI : 2000(Typ)

Surface Luminance, White: 500 cd/m2 (Typ)

Luminance Variation, $\delta = 1.3$ (Max)

Response Time = 6 mx (Max=10mx)

Viewing Angle (CR>10)

Left: 89°typ.

Right: 89°typ.

Top: 89°typ.

Bottom: 89°typ.

3. Input Connectors

RJ11, D-SUB15PIN (MINI, 3rows), Headphone, HDMIX2, RCAX3 (component),
RCAX2 (AUDIO in), RCAX3 (composite), RCAX2 (AUDIO in), S-Video, Tuner

4. POWER SUPPLY

Input Voltage Level: 90~240 Vac, 50/ 60 Hz

Power Consumption: 280W MAX

Power OFF: to less than 3W MAX

5. Speaker

Output 10W (max) X2

6. ENVIRONMENT

Operating Temperature: 5c~35c (Ambient)

Operating Humidity: Ta= 35 °C, 90%RH (Non-condensing)

Operating Altitude: 0 - 14,000 feet (4267.2m)(Non-Operating)

7. DIMENSIONS (Physical dimension)

Width: 800 mm. +/- 20 mm

Depth: 1060 mm +/- 20 mm

Height: 360 mm +/- 20 mm

8. WEIGHT (Physical weight)

Net: 19.1+/-0.5kgs

Gross: 24.6+/-0.5kgs

Precaution

Please pay attention to the followings when you use this TFT LCD module.

1. OPERATING PRECAUTIONS

- (1) The spike noise causes the mis-operation of circuits. It should be lower than following voltage :
 $V=\pm 200\text{mV}$ (Over and under shoot voltage)
- (2) Response time depends on the temperature. (In lower temperature, it becomes longer).
- (3) Brightness depends on the temperature. (In lower temperature, it becomes lower.) And in lower temperature, response time (required time that brightness is stable after turned on) becomes longer.
- (4) Be careful for condensation at sudden temperature change. Condensation makes damage to polarizer or electrical contacted parts. And after fading condensation, smear or spot will occur.
- (5) When fixed patterns are displayed for a long time, remnant image is likely to occur.
- (6) Module has high frequency circuits. System manufacturers shall do sufficient suppression to the electromagnetic interference. Grounding and shielding methods may be important to minimize the interference.

2. HANDLING PRECAUTIONS FOR PROTECTION

- (1) The protection film is attached to the bezel with a small masking tape. When the protection film is peeled off, static electricity is generated between the film and polarizer. This should be peeled off slowly and carefully by people who are electrically grounded and with well ion-blown equipment or in such a condition, etc.
- (2) When the module with protection film attached is stored for a long time, sometimes there remains a very small amount of glue still on the bezel after the protection film is peeled off.
- (3) You can remove the glue easily. When the glue remains on the bezel surface or its vestige is recognized, please wipe them off with absorbent cotton waste or other soft material like chamois soaked with normal-hexane.

Chapter 3 On Screen Display

On Screen Display (OSD) is a friendly interface providing the function adjusting in our system. Customers could operate it only by few buttons. There is the introduction of the OSD.

Main unit button

MENU	OK
CH ▲	↑
CH ▼	↓
VOL +	←
VOL -	→
Input	

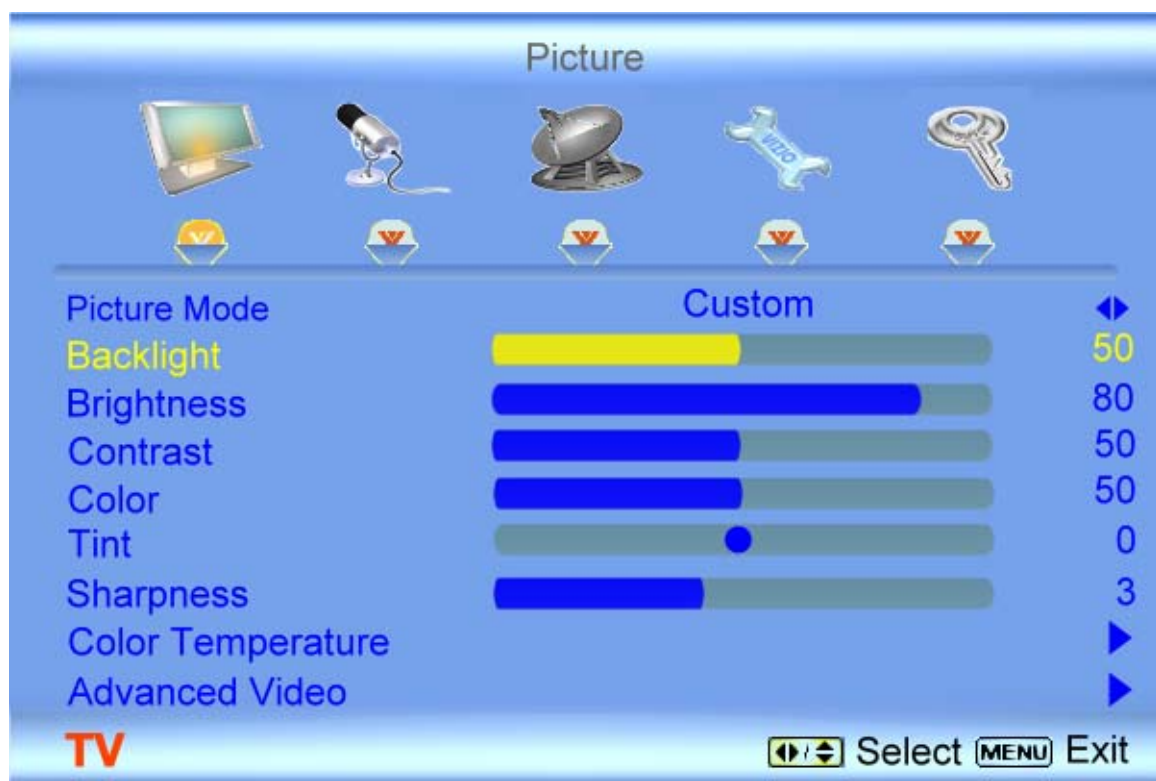
[MENU]

“MENU” button could start the OSD which could adjust the performance and set up the setting between the different input sources. There are the structures.

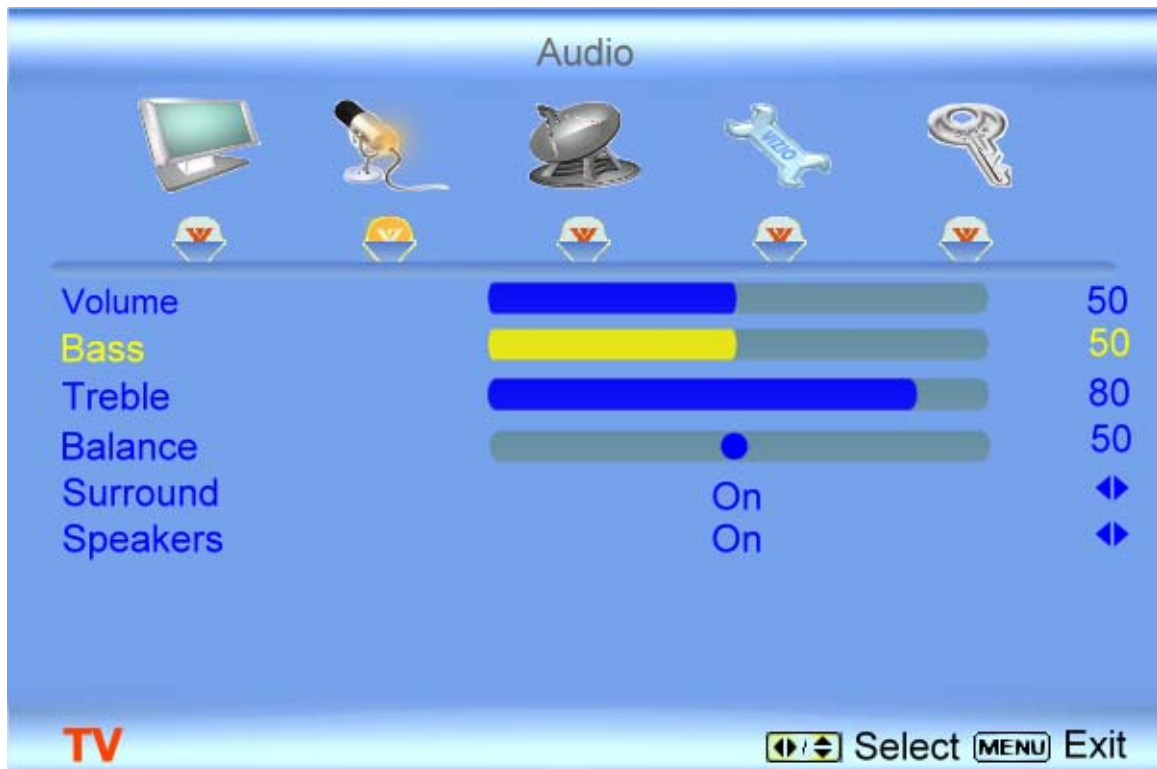
TV Source

A. Picture : (Bold: Default)

- a. Picture Mode (Standard/Movie /Game / Custom)
- b. Backlight (0~100, 90)
- c. Contrast (0~100, 50)
- d. Brightness (0~100, 50)
- e. Color (saturation)(0~100, 50)
- f. Tint (hue) (-32~32, 0)
- g. Sharpness (0~7, 4)
- h. Color Temperature (Cool/Normal/Warm/Custom)
- i. Advanced Video
 1. DNC (Low/Medium/Strong/Off)
 2. Black level extender (Off/On)
 3. White Peak Limiter (On/Off)
 4. CTI (Low/Medium/Strong/Off)
 5. Flesh Tone (Off/On)
 6. Adaptive Luma (Off/On)



- B. Audio : (Bold: Default)
- a. Volume (0~100, 25)
 - b. Bass (0~100, 50)
 - c. Treble (0~100, 50)
 - d. Balance (-50~50, 0)
 - e. Surround (ON/OFF)
 - f. Speakers (ON/OFF)



C. TV : (Bold: Default)

- a. Tuner Mode (Cable/Air)
- b. Auto Search
- c. Skip Channel
- d. Digital Audio Out (PCM/Dolby Digital/OFF)
- e. Time Zone (Eastern/Indiana/Central/Mountain/Arizona/Pacific/Alaska/Hawaii)



D. Setup : (Bold: Default)

- a. Language (English/ Français / Español)
- b. Sleep Timer (OFF/30Min/60Min/90Min/120Min)
- c. Analog CC (OFF/CC1~4/TT1~4)
- d. Digital CC (OFF/CC1~4/Service1~6)
- e. Digital CC Style
 - 1. Caption Style (As Broadcaster/Custom)
 - 2. Size (Large/Small/Medium)
 - 3. Font Color (White/Green/Blue/Red/Cyan/Yellow/Magenta/Black)
 - 4. Font Opacity (Solid/Translucent/Transparent)
 - 5. Background Color (White/Green/Blue/Red/Cyan/Yellow/Magenta/Black)
 - 6. Background Opacity (Solid/Translucent/Transparent)
 - 7. Window Color (White/Green/Blue/Red/Cyan/Yellow/Magenta/Black)
 - 8. Window Opacity (Solid/Translucent/Transparent)
- g. Rest All Setting (OK/Cancel)



E. Parental : (Bold: Default)



Password (Default => 0000)

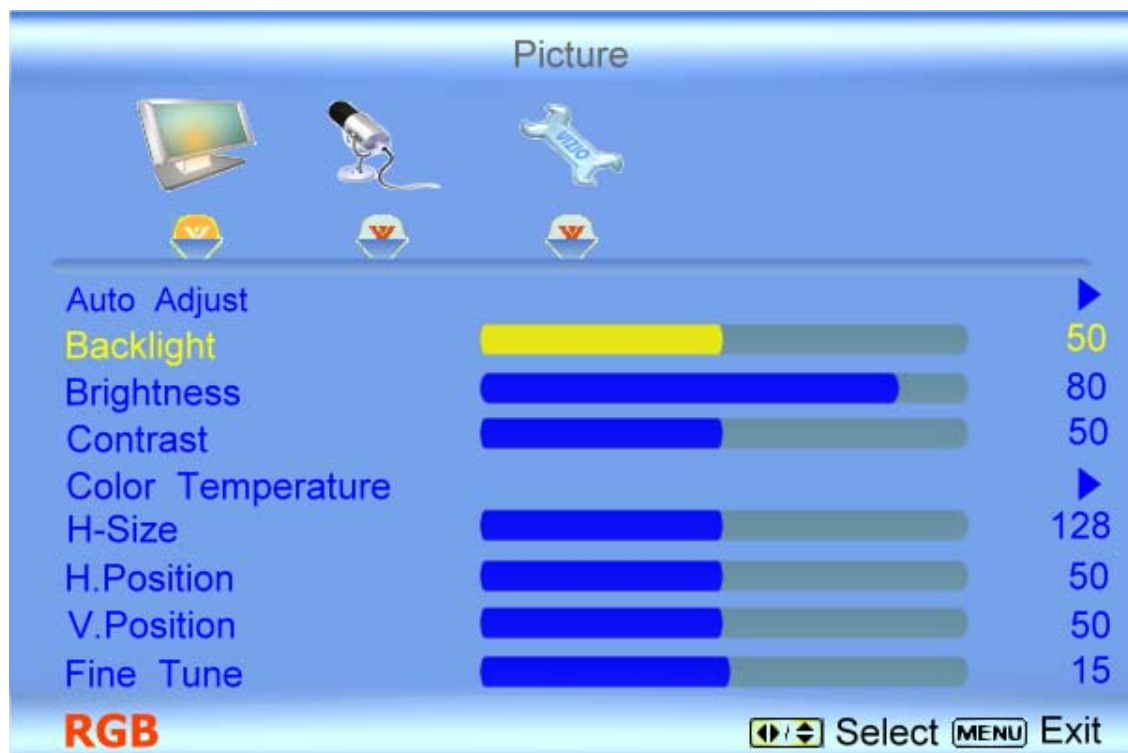
- a. Cannel Block
- b. TV Rating
- c. Move Rating
- d. Block Unrated TV (NO/Yes)
- e. Access Code Edit



RGB Mode

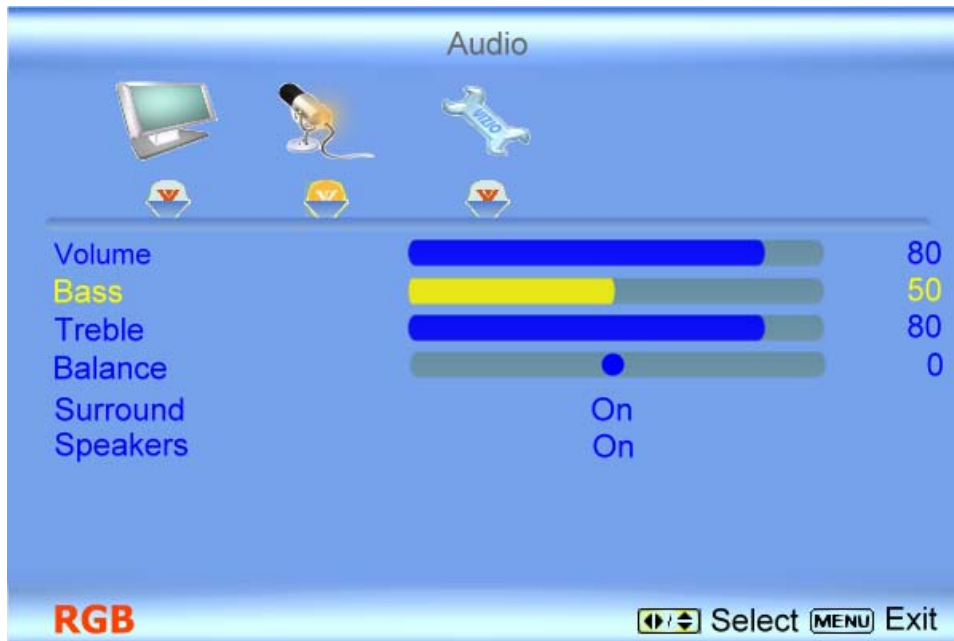
A. Picture Adjust : (Bold: Default)

- a. Auto Adjust
- b. Backlight (0~100, 90)
- c. Contrast (0~100, 50)
- d. Brightness (0~100, 50)
- e. Color Temperature (6500/9300/Custom)
- f. H-Size (0~255, 127)
- g. H-Position (0~100, 65)
- h. V-Position (0~100, 49)
- i. Fine Tune (0~31, 17)



B. Audio : (Bold: Default)

- a. Volume (0~100, 25)
- b. Bass (0~100, 50)
- c. Treble (0~100, 50)
- d. Balance (-50~50, 0)
- e. Surround (ON/OFF)
- f. Speakers (ON/OFF)



C. Setup : (Bold: Default)

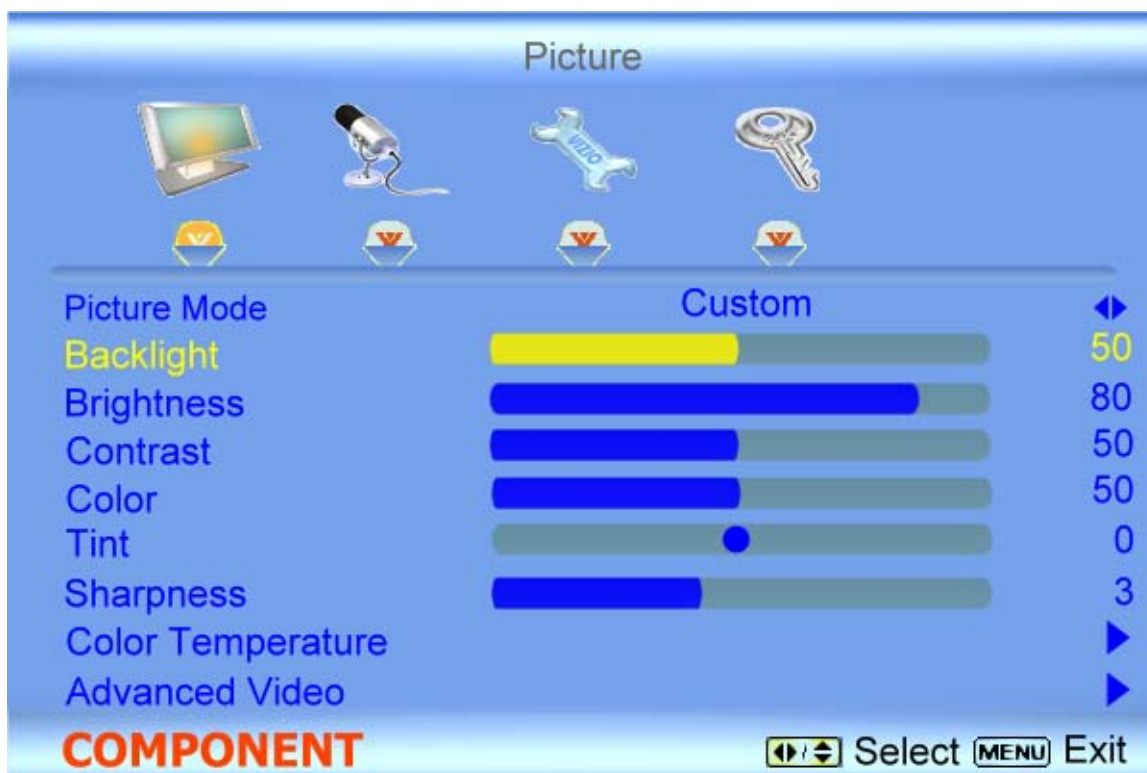
- a. Language (English/ Français / Español)
- b. Sleep Timer (OFF/30Min/60Min/90Min/120Min)
- c. Analog CC (OFF/CC1~4/TT1~4)
- d. Digital CC (OFF/CC1~4/Service1~6)
- e. Digital CC Style
 - 1. Caption Style (As Broadcaster/Custom)
 - 2. Size (Large/Small/Medium)
 - 3. Font Color (White/Green/Blue/Red/Cyan/Yellow/Magenta/Black)
 - 4. Font Opacity (Solid/Translucent/Transparent)
 - 5. Background Color (White/Green/Blue/Red/Cyan/Yellow/Magenta/Black)
 - 6. Background Opacity (Solid/Translucent/Transparent)
 - 7. Window Color (White/Green/Blue/Red/Cyan/Yellow/Magenta/Black)
 - 8. Window Opacity (Solid/Translucent/Transparent)
- g. Rest All Setting (OK/Cancel)



AV / COMPONENT MODE

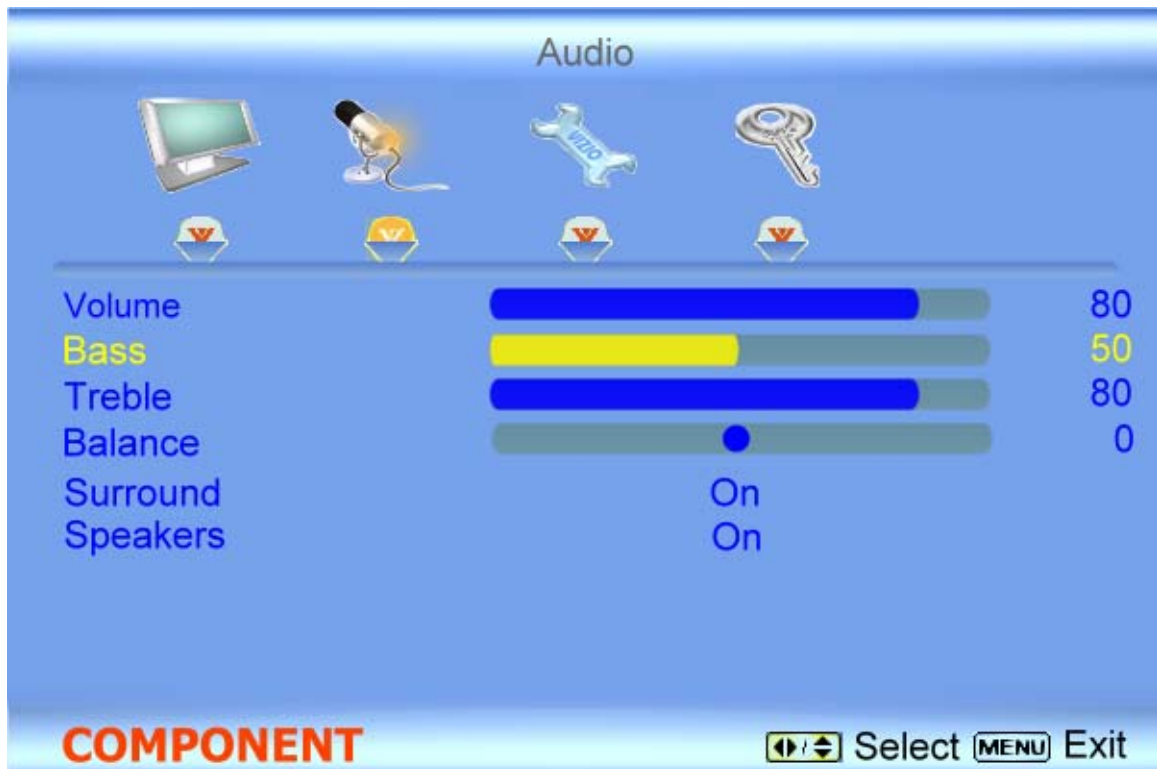
A. Picture : (Bold: Default)

- a. Picture Mode (Standard/Movie /Game / Custom)
- b. Backlight (0~100, 90)
- c. Contrast (0~100, 50)
- d. Brightness (0~100, 50)
- e. Color (saturation)(0~100, 50)
- f. Tint (hue) (-32~32, 0)
- g. Sharpness (0~7, 4)
- h. Color Temperature (Cool/Normal/Warm/Custom)
- i. Advanced Video
 - 1. DNC (Low/Medium/Strong/Off)
 - 2. Black level extender (Off/On)
 - 3. White Peak Limiter (On/Off)
 - 4. CTI (Low/Medium/Strong/Off)
 - 5. Flesh Tone (Off/On)
 - 6. Adaptive Luma (Off/On)



B. Audio : (Bold: Default)

- a. Volume (0~100, 25)
- b. Bass (0~100, 50)
- c. Treble (0~100, 50)
- d. Balance (-50~50, 0)
- e. Surround (ON/OFF)
- f. Speakers (ON/OFF)



C. Setup : (Bold: Default)

- a. Language (English/ Français / Español)
- b. Sleep Timer (OFF/30Min/60Min/90Min/120Min)
- c. Analog CC (OFF/CC1~4/TT1~4)
- d. Digital CC (OFF/CC1~4/Service1~6)
- e. Digital CC Style
 - 1. Caption Style (As Broadcaster/Custom)
 - 2. Size (Large/Small/Medium)
 - 3. Font Color (White/Green/Blue/Red/Cyan/Yellow/Magenta/Black)
 - 4. Font Opacity (Solid/Translucent/Transparent)
 - 5. Background Color (White/Green/Blue/Red/Cyan/Yellow/Magenta/Black)
 - 6. Background Opacity (Solid/Translucent/Transparent)
 - 7. Window Color (White/Green/Blue/Red/Cyan/Yellow/Magenta/Black)
 - 8. Window Opacity (Solid/Translucent/Transparent)
- g. Rest All Setting (OK/Cancel)



D. Parental : (Bold: Default)

Password (Default => 0000)

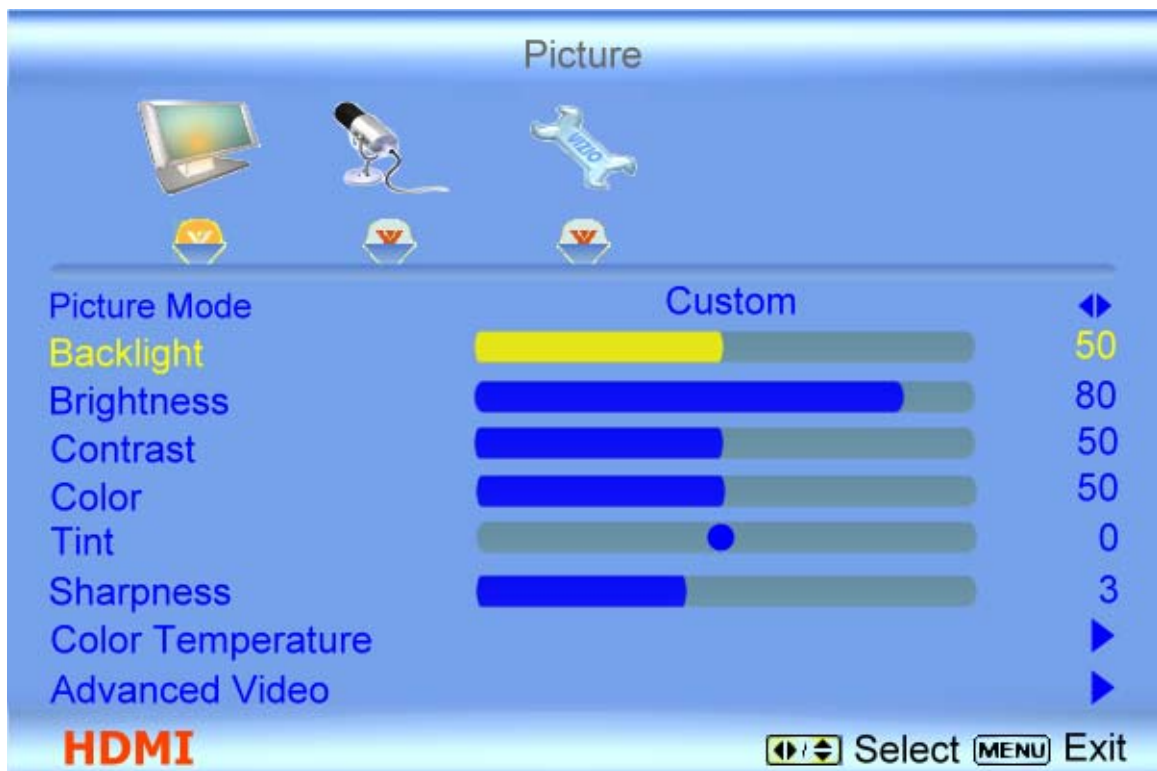
- a. Cannel Block
- b. TV Rating
- c. Move Rating
- d. Block Unrated TV (NO/Yes)
- e. Access Code Edit



HDMI MODE

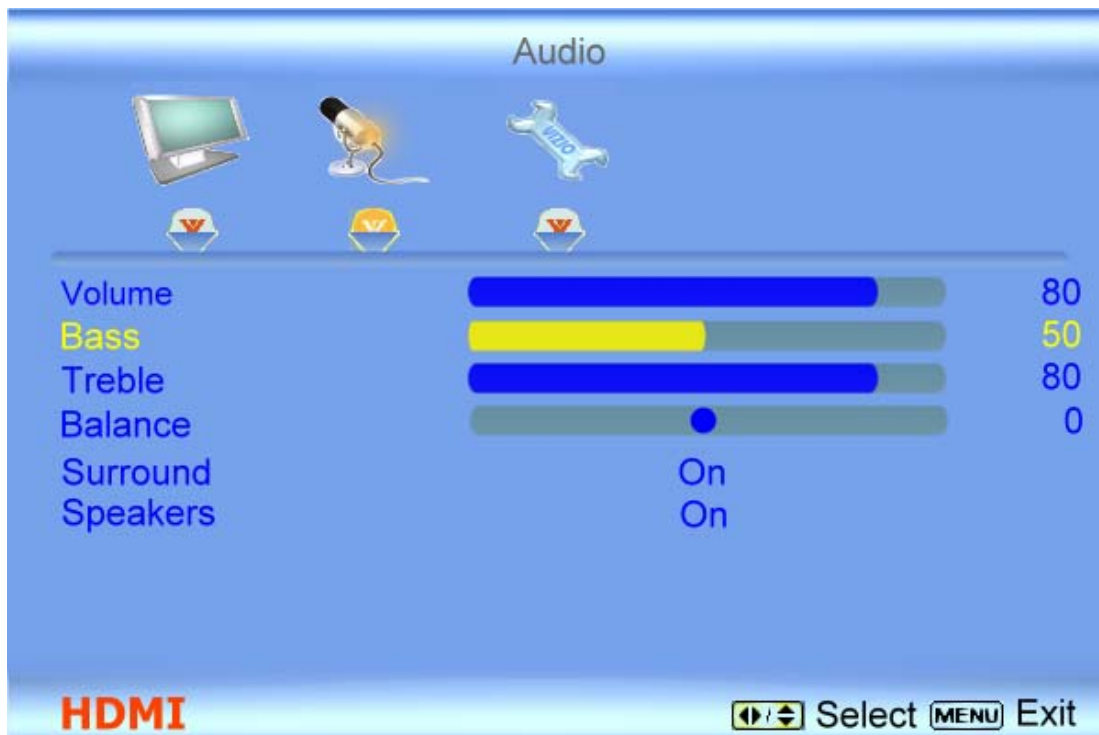
A. Picture : (Bold: Default)

- a. Picture Mode (Standard/Movie /Game / Custom)
- b. Backlight (0~100, 90)
- c. Contrast (0~100, 50)
- d. Brightness (0~100, 50)
- e. Color (saturation)(0~100, 50)
- f. Tint (hue) (-32~32, 0)
- g. Sharpness (0~7, 4)
- h. Color Temperature (Cool/Normal/Warm/Custom)
- i. Advanced Video
 - 1. DNC (Low/Medium/Strong/Off)
 - 2. Black level extender (Off/On)
 - 3. White Peak Limiter (On/Off)
 - 4. CTI (Low/Medium/Strong/Off)
 - 5. Flesh Tone (Off/On)
 - 6. Adaptive Luma (Off/On)



B. Audio : (Bold: Default)

- a. Volume (0~100, 25)
- b. Bass (0~100, 50)
- c. Treble (0~100, 50)
- d. Balance (-50~50, 0)
- e. Surround (ON/OFF)
- f. Speakers (ON/OFF)



C. Setup : (Bold: Default)

- a. Language (English/ Français / Español)
- b. Sleep Timer (OFF/30Min/60Min/90Min/120Min)
- c. Analog CC (OFF/CC1~4/TT1~4)
- d. Digital CC (OFF/CC1~4/Service1~6)
- e. Digital CC Style
- g. Rest All Setting (OK/Cancel)



[INPUT]

“INPUT” could supply an interface providing a list. The list shows input sources and provides the choices of different sources. The list includes items as below:

MAIN	PIP
TV	TV
AV1	AV1
AV2	AV2
COMPONENT1	COMPONENT1
COMPONENT2	COMPONENT2
RGB	RGB
HDMI1	HDMI1
HDMI2	HDMI2

A. TV: Analog TV or digital TV

B. AV1, AV2: Composite (AV) signal

C. Component1, Component2: Color difference (YPbPr) video signals.

D. RGB: Video Graphics Array (VGA) or D-sub video signals.

E. HDMI1, HDMI2: High Definition Multimedia Interface (HDMI) multimedia signals.

Note : The list of PIP provides the choices of different sources on sub-screen.

[INFO]

“INFO” button could show an information bar which displays the information about the input signal on our LCD TV.

Charmed	20-2
11:00 PM - 12:00 AM	English stereo
TV-14-V	480i SD
CC	Cable
	KBWB-SD

Chapter4 Factory preset timings

This timing chart is already preset for the TFT LCD analog & digital display monitors.

Resolution	Refresh rate	Horizontal Frequency	Vertical Frequency	Horizontal Polarity	Vertical Polarity	Pixel Rate
640x480	60Hz	31.5kHz	59.94Hz	N	N	25.175
640x480	75Hz	37.5kHz	75.00Hz	N	N	31.500
800X600	60Hz	37.9kHz	60.317Hz	P	P	40.000
800x600	75Hz	46.9kHz	75.00Hz	P	P	49.500
800X600	85Hz	53.7kHz	85.06Hz	P	P	56.250
1024x768	60Hz	48.4kHz	60.01Hz	N	N	65.000
1024X768	75Hz	60.0kHz	75.03Hz	P	P	78.750
720x400	70Hz	31.46kHz	70.08Hz	N	P	28.320
1366X768	60	47.7KHZ	60.00HZ	P	N	85.500

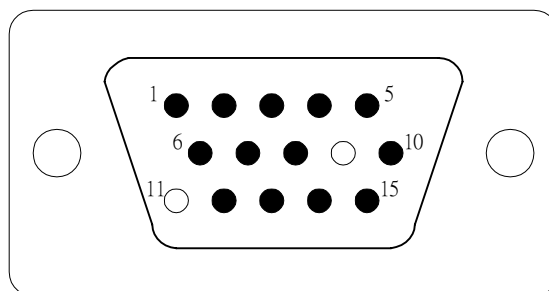
Remark: P: positive N: negative

Chapter5 Connectors Pin Assignment & Signal Specification

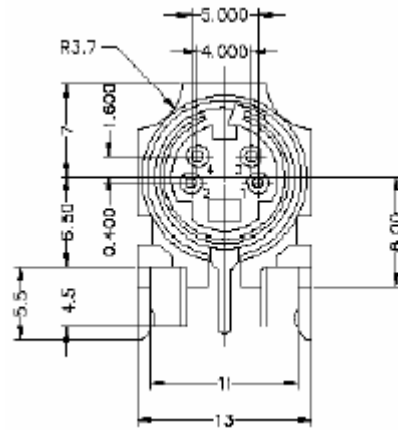
Video Graphics Array (VGA) connector pin assignment

The TFT LCD analog display monitors use a 15 Pin Mini D-Sub connector as video input source.

Pin	Description
1	Red
2	Green
3	Blue
4	Ground
5	Ground
6	R-Ground
7	G-Ground
8	B-Ground
9	+5V for DDC
10	Ground
11	No Connection
12	(SDA)
13	H-Sync (Composite Sync)
14	V-Sync
15	(SCL)



Four-Pin mini DIN S-Video Connector pin assignment



1, 2 = GND
3 = Luminance (Y)
4 = Chrominance (C)

Signal Specification

F-Type TV RF connector

- a. Signal Level 60dB μ V typical
- b. System: NTSC
- c. Frequency: 55~801MHz (NTSC)

PC connector 15 pin male D-sub connector

- a. Pin Assignment Refer to Section 2.3.10
- b. Signal Level Video (R, G, B): Analog 0.7Vp-p/75 Ω
Sync (H, V): TTL level
- c. Sync Type TTL (Separate / Composite) or Sync. On Green
- d. Sync polarity Positive or Negative
- e. Video Amplitude RGB: 0.7Vp-p
- f. Frequency H: support to 30K~70KHz
V: support to 50~85Hz
Pixel Clock: support to 110MHz

Four-Pin mini DIN S-Video

- a. Pin Assignment refer to S-Video connector pin assignment
- b. Signal Level Video (Y): Analog 0.1Vp-p/75Ω
Video (C): Analog 0.286p-p/75
Sync (H+V): 0.3V below Video (Y)
- c. Frequency H: 15.734KHz V: 60Hz (NTSC)
Signal Level Video (Y) : Analog 0.1Vp-p/75Ω
Video (C) : Analog 0.286p-p/75Ω
Sync (H+V): 0.3V below Video (Y)
Frequency: H: 15.734Khz V: 60HZ (NTSC)

HDMI Signal:

- a. Pin Assignment Refer to HDNI Pin Assignment
- b. Type A
- c. Polarity Positive or Negative
- d. Frequency
 - H: 15.734KHz V: 60Hz (NTSC-480i)
 - H: 31KHz V: 60Hz (NTSC-480p)
 - H: 45KHz V: 60Hz (NTSC-720p)
 - H: 33KHz V: 60Hz (NTSC-1080i)

Component signal

- a. Frequency H: 15.734KHz V: 60Hz (NTSC-480i)
 - H: 31KHz V: 60Hz (NTSC-480p)
 - H: 45KHz V: 60Hz (NTSC-720p)
 - H: 33KHz V: 60Hz (NTSC-1080i)
- b. Signal level Y: 1Vp-p Pb: ±0.350Vp-p Pr: ±0.350Vp-p
- c. Impedance 75Ω

Chapter6 Main Board I/o Connections

J1 CONNECTION [MAIN BD TO POWER BD]

Pin	Description
1	"POWRSW"
2	" +12V"
3	" +12V"
4	" +12V"
5	" +12V"
6	"GND"
7	"GND"
8	"GND"
9	" +5V"
10	" +5V"
11	" +5V"
12	"PWM"
13	"BL ON/OFF"

J2 CONNECTION [MAIN BD TO DISPLAY BD]

Pin	Description
1	"BL-RED"
2	"BL-WHITE"
3	" +5V"
4	" +5V"
5	"IR"
6	"GND"
7	"GND"
8	"KEYPAD-ADC1"
9	"KEYPAD-ADC2"
10	" +3.3V"

J4 CONNECTOR [MAIN BD TO SIDE JACK]

Pin	Description
1	“AV1-IN”
2	“GND”
3	“AV1L-IN”
4	“GND”
5	“AV1R-IN”
6	“GND”
7	“SY1-IN”
8	“GND”
9	“SC1-IN”
10	“GND”
11	“SVDET1”
12	“NC”

J6 CONNECTOR [MAIN BD TO SPEAKER]

Pin	Description
1	“R+”
2	“R-”
3	“L-”
4	“L+”

Chapter 7 Theory of Circuit Operation

The route of D-SUB 15pin input

An RGB (analog) signal is inputted the D-SUB 15pin to the MT5372 which transfers it to a digital signal by the A/D converter. Then MT5372 generates a Low Voltage Differential Signal (LVDS) for display device.

The route of HDMI CON input

A HDMI (digital) signal is inputted the HDMI 1&2 CON to the PI3HDMI412FT switch. The passing signal is processed with the MT5372. Then MT5372 generates a LVDS for display device.

The route of HDTV & Component input

HDTV & Component signal is inputted to the MT5372. After processing, MT5372 generates a LVDS for display device. The audio signal is inputted WM8776. After processing, WM8776 transmits the signal to TDA8946J, an audio amplifier. Then, the amplified signal is the output audio signal.

The route of Video 1,2,3 & S-Video input

The Video 1,2 and S-Video signal is inputted to the MT5372. After processing, MT5372 generates a LVDS for display device. The audio signal is inputted WM8776. After processing, WM8776 transmits the signal to TDA8946J, an audio amplifier. Then, the amplified signal is the output audio signal.

The route of TV input

TV signal is demodulated by the tuner then the demodulating signal is divided into two parts, video and audio signal. The video signal is processed by MT5372 then MT5372 generates a LVDS for display device. The audio signal is transmitted in the route named SIF. The SIF signal is demodulated and decoded by MT5372. The decoded analog signal is transferred into I2S, which is digital signal, by MT5372. The I2S signal is inputted and transferred into analog signal by WM8776. After processing, WM8776 transmits the signal to TDA8946J, an audio amplifier. Then, the amplified signal is the output audio signal.

The route of DTV input

DTV signal demodulated by the tuner then the demodulating signal is divided into two parts, video and audio signal. The video signal is decoding by MT5112. The decoded signal, as the format of MPEG4, is transmitted to and processed by MT5372. Also, MT5372 generates a LVDS for display device. The audio signal is transmitted in the route named FAT-IN. The FAT-IN signal is demodulated and decoded by MT5372. The decoded analog signal is transferred into I2S, which is digital signal, by MT5372. The I2S signal is inputted and transferred into analog signal by WM8776. After processing, WM8776 transmits the signal to TDA8946J, an audio amplifier. Then, the amplified signal is the output audio signal.

The operation of keypad

There are 7 keys to control and to select the function of VX37. Also, there is a LED back light under the logo “VIZIO” to indicate the status of operation (Orange => STANDBY, White => ON). They are “Power, ▼ ▲, + -, Input, MENU”.

MT5372

I .GENERAL DESCRIPTION

The **MediaTek MT5372** consists of a DTV backend decoder and a TV controller and offers high integration for advanced applications in main stream integrated digital television market. The MT5372 combines a transport de-multiplexer, a high definition MPEG-2 video decoder, an AC3 audio decoder, an LVDS transmitter, and an NTSC/PAL/SECAM video decoder with a 3D comb filter. The MT5372 enables consumer electronics manufactures to build high quality, feature-rich DTVs.

World-Leading Video Technology

The MT5372 includes MediaTek’s proprietary de-interlacing technology, the MDDiTM solution to generate very smooth picture quality for motions. A 3D comb filter added to the video decoder recovers great detail for still pictures. The special color processing technology provides natural colors and true studio quality graphics.

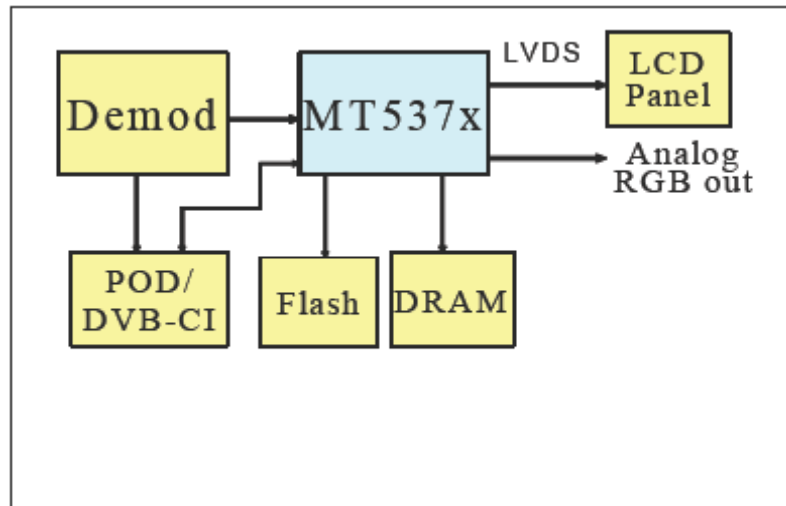
Rich Features for High Value Products

Additional features of iDTVs for the MT5372 release are the abilities to support the HDMI receiver, PIP/POP functionalities, memory cards and DV decoding.

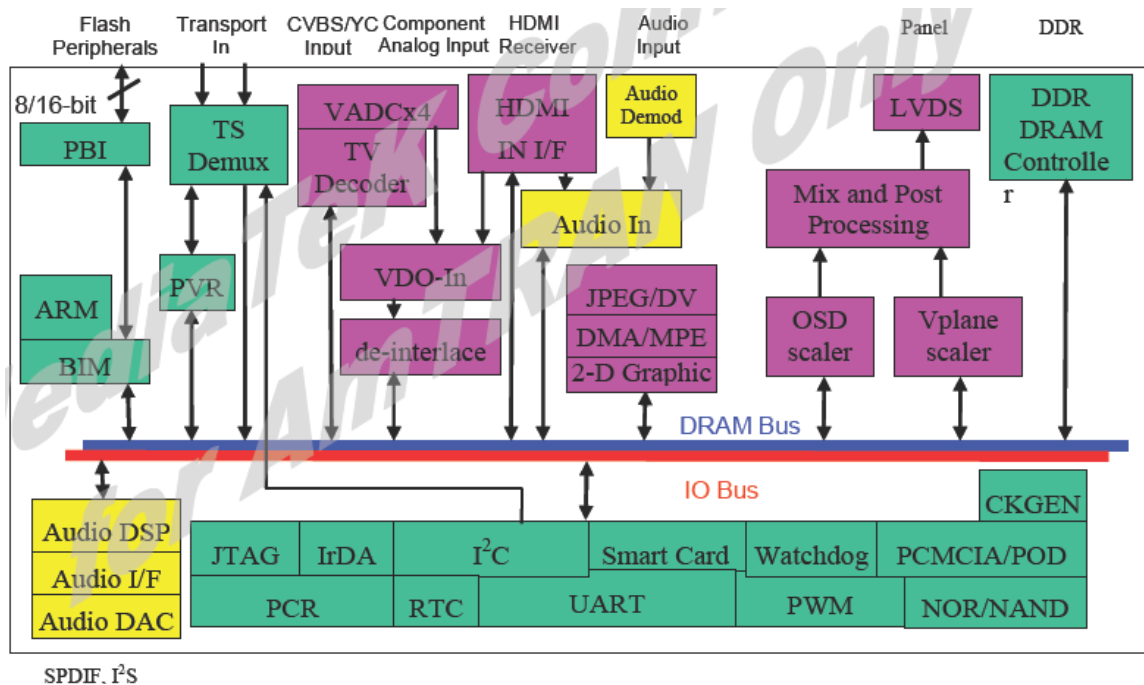
Reliable Analog Technology

The MT5372 integrates high speed VGA ADC, high resolution Video/Audio ADC, 90db Audio DACs. The MT5372 provides very fine quality for the iDTV markets.

System Block Diagram



Functional Block Diagram



SPDIF, I²S

II. Features of MT5372

1. Key Features:

1. A transport de-multiplexer
2. An MPEG-2 video decoder
3. An AC3 audio decoder
4. A 3D comb TV decoder
5. PIP/POP mode
6. An HDMI receiver
7. A set of three VGA ADCs

2. Host CPU:

1. ARM 926
2. 16K I-Cache and 16K D-Cache
3. 8K Data TCM and 8K Instruction TCM
4. JTAG ICE interface
5. Watch Dog timers
6. Built-in CPI analyzer

3. Transport De-multiplexer:

1. Supports one independent transport stream input
2. Supports serial / parallel interfaces for transport stream input
3. Supports ATSC, DVB, and MPEG2 transport stream inputs
4. Programmable sync detection
5. Supports DES/3-DES/DVB/Multi-2 de-scramblers
6. Up to 8 PIDs even/odd keys for descrambling
7. Supports 32 PID filters and 32 section filters
8. Supports positive/negative/mask section filtering

4. MPEG-2/JPEG Decoder:

1. Supports one MPEG-2 HD decoder
2. MPEG compliant with DV, MP@ML, MP@HL and MPEG-1 video standards
3. JPEG decode base-line or progressive JPEG file

5. 2D Graphics:

1. Supports multiple color modes
2. Point, horizontal/vertical line primitive drawings
3. Rectangle fill and gradient fill functions
4. Bitblt with transparent, alpha blending, alpha composition and stretch
5. Font rendering by color expansion
6. YCbCr to RGB color space transfer
7. Supports off-line scaler

6. OSD Plane:

1. Three linking list OSD with multiple color modes
2. Two OSD with scaler
3. Square size, 32x32 or 64x64 pixel, hardware cursor

7. Video Plane:

1. Supports clip
2. Flesh tone management
3. Gamma/anti-Gamma correction
4. Color Transient Improvement (CTI)
5. 2D peaking
6. Saturation/hue adjustment
7. Brightness and contrast adjustment
8. Black level extender
9. White peak level limiter
10. Adaptive Luma/Chroma management
11. Automatic detection of films or video sources
12. 3:2/2:2 pull down source detection
13. SD/HD advanced motion adaptive de-interlacing with excellent low angle
14. Arbitrary ratio vertical/horizontal scaling of video, from 1/32X to 32X
15. Advanced linear and non-linear panoramic scaling.
16. Programmable zoom viewer
17. Progressive scan output
18. Supports alpha blending
19. Picture-in-Picture (PIP)
20. Picture-Outside-Picture (POP)

-
21. Dithering processing for flat panel display
 22. Frame rate conversion, 50Hz to 75Hz
 23. Supports mirror and upside down video outputs
 24. Supports 480i/ 576i/ 480p /576p/ 720p/ 1080i/ 1080p output forma

8. LVDS:

1. One 10-bit channel or dual 6/8-bit channel
2. Built-in spread spectrum for EMI performance
3. Supports 6/8/10-bit format output
4. Programmable panel timing output

9. CVBS In:

1. On-chip 54MHz 10-bit video ADC
2. Supports PAL (B,G,D,H,M,N,I,Nc), PAL(Nc), PAL, NTSC, NTSC-4.43 and SECAM
3. Macrovision detection
4. NTSC/PAL support 3D Motion Adaptive comb filter and SECAM supports 2D comb filter.
5. Built-in Motion Adaptive 3D Noise Reduction
6. VBI data slicer for CC/TT decoding
7. Supports four CVBS channels and two S-Video channels

10. CVBS Bypass:

1. Supports CVBS/S-Video bypass to Pin TP2
2. ATSC/DVB could not output to CVBS

11. VGA In:

1. Supports VGA input up to UXGA 150MHz
2. Supports full VESA standards

12. Component Video In:

1. Supports two component video inputs
2. Supports 480i/480p/576i/576p/720p/1080i/1080P, 1080P up to 60Hz

13. Digital Video-In Interface:

One 8-bit digital video-in interface for MT5372

14. Audio line In Interface:

1-bit data (two channel)

15. HDMI Receiver:

1. HDMI1.1
2. DVI 1.0
3. EIA/CEA-861B
4. HDCP 1.1
5. Supports up to 1080P 60Hz source

16. TV audio demodulator:

1. Supports BTSC/EIA-J/A2/NICAM/PAL, FM/SECAM world wild formats
2. Standard auto detection
3. Stereo demodulation, SAP demodulation
4. Noise reduction
5. Mode selection (Main/SAP/Stereo)
6. Pink noise and white noise generators
7. Equalizer
8. Sub-woofer/Bass enhancement
9. Noise auto mute
10. 3D surround processing include virtual surround
11. Audio and video lip synchronization
12. Supports reverberation

17. Audio DAC:

Four on-chip audio DACs support R/L channels and subwoofer outputs

18. DRAM Controller:

1. Supports 64Mb to 1Gb DDR DRAM devices
2. Configurable 16/32-bit data bus for MT5372
3. Supports DDR1-333, DDR1-400, DDR2-533, DDR2-667 JEDEC specification compliant SDRAM

19. Audio DSP:

1. Supports Dolby Digital AC-3 decoding (ATSC)
2. MPEG-1 layer I/II decoding (DVB)
3. MPEG-2 AAC decoding (Japan)
4. DV audio decoding
5. MP3 decoding
6. Dolby Pro-logic II
7. Audio output: 7.1ch + 2ch (down mix)
8. Pink noise and white noise generators
9. Equalizer
10. Bass management
11. 3D-surround processing with virtual surround
12. Audio and video lip synchronization
13. Supports reverberation
14. Automatic volume control
15. One SPDIF out
16. 5-bit data (10-channel) I2S out interface up to 24-bit resolution per channel

20. Peripherals:

1. Two UARTs with a transmitter and a receiver FIFO, one of them has a hardware flow control
2. Three serial interfaces, one is the master for general purposes, one is the master for the HDMI key, and the remaining one is the slave for the HDMI EDID data
4. Three PWMs
5. IR blaster and receiver
6. Real-time clock and watchdog controller
7. Smart Card reader
8. PCMCIA/POD/CI interfaces
9. Supports three NOR flash or one NOR and one NAND flash
10. Supports CableCARD host control bus

21. IC Outline:

1. The MT5372 is delivered in 588-ball BGA package
2. 3.3V/1.2V and 2.5V for DDR1; 1.8V for DDR2

III. Electrical Characteristics

1. Absolute Maximum Rating

Symbol	Parameters	Value	Unit
IOVDD	3.3V supply voltage	-0.5 to 4.6	V
CVDD	1.2V supply voltage	-0.5 to 1.8	V
AVDD33	3.3V Analog supply voltage	-0.5 to 4.6	V
AVDD15	1.5V Analog supply voltage	-0.5 to 1.8	V
RVDD25	DDR1 supply voltage	-0.5 to 3.5	V
RVDD18	DDR2 supply voltage	-0.5 to 3.5	V
VIN(3.3V)	Input Voltage(3.3V IO)	VSS-1.0 to 3.63	V
VIN(5V tolerance)	Input Voltage(5V tolerance IO)	VSS-1.0 to 5.5	V
Vout	Output Voltage	-0.3 to VDD3+0.3	V
Ts	Storage Temperature	-40 to 150	C
Ta	Ambient Temperature	0 to 70	C

2. DC Characteristics

Symbol	Parameters	Min	Typical	Max	Unit
IOVDD	3.3V supply voltage	2.97	3.3	3.63	V
CVDD	1.2V supply voltage	1.08	1.2	1.32	V
AVDD	Analog supply voltage	2.97	3.3	3.63	V
VIH(3.3V)	3.3V input voltage high	2.0			V
VIL(3.3V)	3.3V input voltage low			0.8	V
VOH(3.3V)	3.3V output voltage high	2.4			
VOL(3.3V)	3.3V output voltage low			0.4	
VIH(3/5V)	3/5V tolerance input voltage high	2.0			V
VIL(3/5V)	3/5V tolerance input voltage low			0.8	V
VOH(3/5V)	3/5V tolerance output voltage high	2.4			V
VOL(3/5V)	3/5V tolerance output voltage low			0.4	V
Tj	Junction operation temperature	-40	25	125	C
PD(estimate)	Power dissipation		3		W
Pdown	Power down mode		2		mW

3. DDR1 ELECTRICAL Characteristics and DC Operating Condition

Symbol	Parameters	Min	Typical	Max	Unit
RVDD25(DDR333)	DDR I/O supply voltage for DDR266 or DDR333	2.3	2.5	2.7	V
RVDD25(DDR400)	DDR I/O supply voltage for DDR400	2.5	2.6	2.7	V
DVREF	DDR I/O reference voltage	0.49*RVDD	0.5*RVDD	0.51*RVDD	V
VTT	DDR I/O termination voltage	VREF-0.04	VREF	VREF+0.04	V
VIH	DDR input voltage high	VREF+0.15		RVDD+0.3	V
VIL	DDR input voltage low	-0.3		VREF-0.15	V

4. DDR1 AC Operating Condition

Symbol	Parameters	Min	Typical	Max	Unit
VIH	Input high voltage, DQ, DQS	DVREF+0.31			V
VIL	Input low voltage, DQ, DQS			DVREF-0.31	V
Vslew	Input minimum slew rate	1.0			V/ns
Vswing	Input maximum swing			1.5	V

5. DDR2 ELECTRICAL Characteristics and DC Operating Condition

Symbol	Parameters	Min	Typical	Max	Unit
RVDD	DDR I/O supply voltage for DDR400	1.7	1.8	1.9	V
DVREF	DDR I/O reference voltage	0.49*RVDD	0.5*RVDD	0.51*RVDD	V
VTT	DDR I/O termination voltage	VREF-0.04	VREF	VREF+0.04	V
VIH	DDR input voltage high	VREF+0.125		RVDD+0.3	V
VIL	DDR input voltage low	-0.3		VREF-0.125	V

6. DDR2 AC Operating Condition

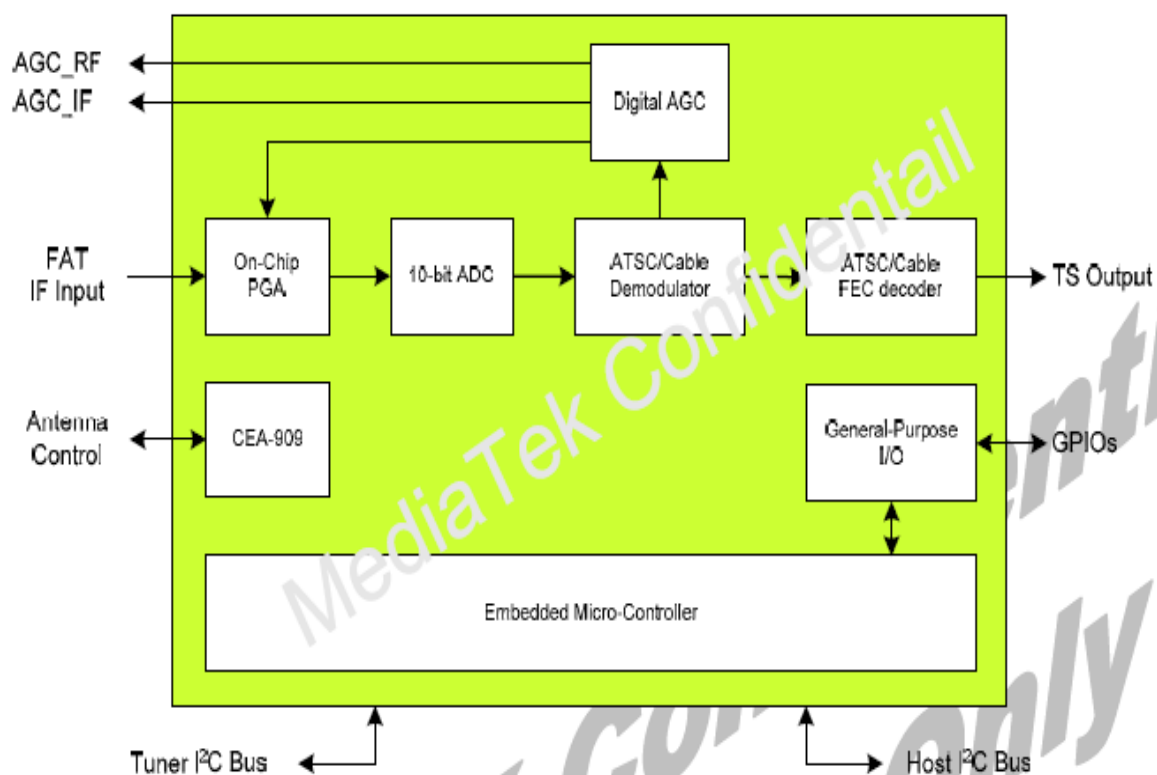
Symbol	Parameters	Min	Typical	Max	Unit
VIH(400, 533)	Input high voltage, DQ, DQS	DVREF+0.25			V
VIL(400, 533)	Input low voltage, DQ, DQS			DVREF-0.25	V
VIH(667, 800)	Input high voltage, DQ, DQS	DVREF+0.20			V
VIL(667, 800)	Input low voltage, DQ, DQS			DVREF-0.20	V
Vslew	Input minimum slew rate	1.0			V/ns
Vswing	Input maximum swing			1.0	V

MT5112

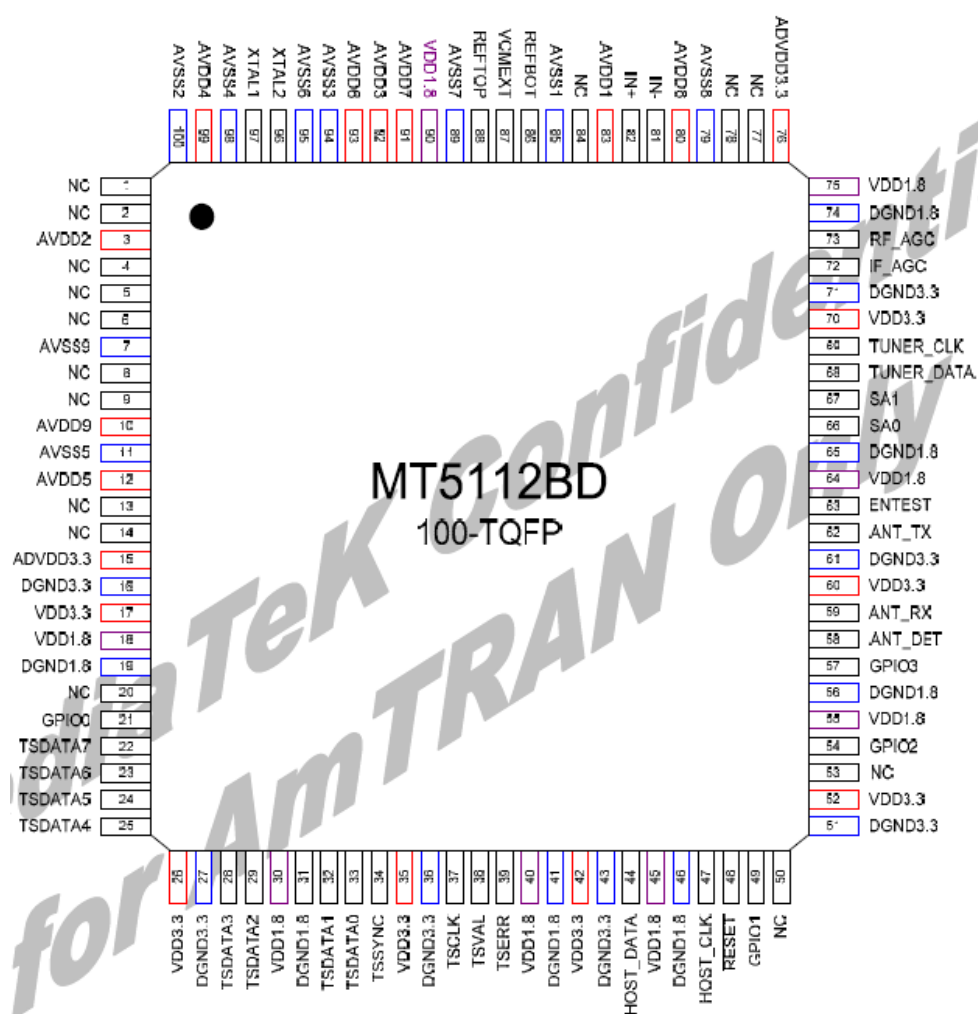
1. GENERAL DESCRIPTION

The MT5112BD is a highly integrated single-chip for digital terrestrial HDTV and digital cable TV de-modulation. The chip is designed specifically for the digital terrestrial HDTV and CATV receivers, and is fully compliant with ATSC A/53, SCTE DVS-031, and ITU J.83 Annex B standards.

FUNCTIONAL BLOCK DIAGRAM



PIN ASSIGNMENT



PIN DESCRIPTION

For FAT Applications

Pin Numbers	Symbol	Type	Description
Transport Stream			
22, 23, 24, 25, 28, 29, 32, 33	TSDATA[7:0]	O	TS data output
34	TSSYNC	O	TS packet start signal
38	TSVAL	O	TS output valid signal
37	TSCLK	O	TS output clock
39	TSERR	O	TS packet error indicator
Analog Signal			
82	IN+	I	Analog differential IF input
81	IN-	I	
88	REFTOP	O	ADC reference top voltage. Decouple with a capacitor to AVSS
86	REFBOT	O	ADC reference bottom voltage. Decouple with a capacitor to AVSS
87	VCMEXT	O	ADC common mode voltage
Antenna Interface			
62	ANT_TX	O	CEA-909 antenna control: transmit data
58	ANT_DET	I	CEA-909 antenna control: detection signal
59	ANT_RX	I	CEA-909 antenna control: receive data
Clock Generation			
97	XTAL1	I	25MHz crystal input
96	XTAL2	I	
Clock Generation			
97	XTAL1	I	25MHz crystal input
96	XTAL2	I	
Control Signals			
47	HOST_CLK	I	Host processor serial clock input, 5 volt compatible
44	HOST_DATA	I/O	Host processor serial data pin, 5 volt compatible
69	TUNER_CLK	O	Tuner serial clock output, 5 volt compatible
68	TUNER_DATA	I/O	Tuner serial data pin, 5 volt compatible
72	IF_AGC	O	IF AGC output
73	RF_AGC	O	RF AGC output
48	RESET	I	Power reset pin, low active
66	SA0	I	Chip slave address selection pin, tie to VDD3.3 or DGND
67	SA1	I	Chip slave address selection pin, tie to VDD3.3 or DGND
Power Supply			
17, 26, 35, 42, 52, 60, 70	VDD3.3	P	Digital power supply, tie to 3.3V
18, 30, 40, 45, 55, 64, 75	VDD1.8	P	Digital power supply, tie to 1.8V
16, 19, 27, 31, 36, 41, 43, 46, 51, 56, 61, 63, 65, 71, 74	DGND	P	Digital ground, tie to digital ground plane
3, 10, 12, 80, 83, 91, 92, 93, 99	AVDD	P	Analog power supply, tie to 3.3V
7, 11, 79, 85, 89, 94, 95, 98, 100	AVSS	P	Analog ground, tie to analog ground plane
15, 76	ADVDD3.3	P	Digital power supply for analog component, tie to 3.3V
90	AVDD1.8	P	Digital power supply for analog component, tie to 1.8V
General-Purpose I/O			
57, 54, 49, 21	GPIO[3:0]	I/O	General-Purpose I/Os

2. 8-VSB and Clear-QAM Reception

MT5112BD contains a 10-bit A/D converter, an 8-VSB/QAM demodulator, followed by a trellis-code de-modulation (TCM) decoder and a Reed-Solomon forward error correction (FEC) decoder. Moreover, an embedded 8-bit microprocessor intelligently handles the acquisition and tracking to ensure the best receiving performance under various channel conditions. The microprocessor communicates with the external host controller via an I2C-compatible interface, and also provides direct control to the RF tuner via another I2C-compatible interface.

MT5112BD accepts the tuner IF output centered at 44MHz or 43.75MHz, or the low IF signals from a down-converter. With good adjacent channel immunity, additional IF SAW filters for adjacent channel rejection can be saved. An on-chip programmable gain-controlled amplifier (PGA) is designed to provide extra signal gain when the tuner output level is low. The amplified IF signal is then sample and digitized for further demodulation process.

MT5112BD keeps A/D input power level at a desired level so as to maximize the received SNR. It measures the power level of the digitized samples and provide two signals (both sigma-delta encoded; one delayed and one non-delayed) for front-end gain control purpose. The signals is low-pass filtered before connected to tuner or IF gain stages.

For the 8-VSB reception, the carrier frequency offset is estimated and compensated by a fully digital synchronizer. It also controls the rate conversion in the digital re-sampling device by estimating the sampling frequency offset; hence no external VCXO is required. The digital synchronizer simultaneously offers very wide frequency acquisition range and stable tracking capability. This makes MT5112BD robust work under severe impairment conditions.

The MT5112BD is equipped with a powerful equalizer for mitigating the multi-path effects due to terrestrial propagation of 8-VSB signals. The delicate equalizer design makes the MT5112BD boast its ability for strong echo cancellation. With this powerful equalizer, the MT5112BD can not only easily pass the tests of A74 equalization mask, ATTC channel ensembles, CRC channel ensembles, but also provide superior capability of live signal receptions.

For cable signal reception, the MT5112BD adopts the fully digital modules for timing and carrier synchronization, with no external VCXO required. Specially designed carrier synchronization module enables the MT5112BD passing the OpenCable ATP burst and phase noise tests, while maintaining excellent reception performance under normal reception conditions.

The MT5112BD also utilizes a powerful equalizer for performing channel equalization in cable environments. The MT5112BD equipped with this powerful equalizer can easily pass the SCTE channel tests and offer stable and excellent live signal receptions.

The following FEC decoder corrects most of the errors by the concatenation of the TCM and Reed-Solomon decoders with an in-between de-interleaver. Specifically for the digital cable TV reception, the MT5112BD first detects and aligns de-puncturing timing of the received sequence before TCM decoding. Besides, two synchronization circuits are each inserted before the de-interleaver and after the Reed-Solomon decoder to automatically delineate the FEC frames and transport stream packets respectively. An on-chip error rate estimator can simultaneously monitor the receiving qualities at the three stages: the equalizer output, the TCM decoder, and the transport stream packets. At the last stage, the MT5112BD incorporates a buffer to smooth out the uneven arrival time of transport stream packets. The chip finally outputs the smoothed decoded MPEG-2 transport stream packets in either the serial or parallel transport stream format.

In addition to the demodulation of HDTV signal, MT5112BD provides the capability to remove narrow-band interference such as the co-channel NTSC signal and CW tones which generally exists in broadcast environment.

To achieve the best reception, an antenna control interface compliant with EIA/CEA-909 is equipped into the MT5112BD to configure the antenna parameters. Both the unidirectional mode A and the bi-directional mode B operation schemes are supported.

3. FEATURES

1. Compliant with ATSC digital television standard
2. Supports SCTE DVS-031 and ITU J.83 Annex B digital CATV standard
3. Accepts direct IF (44 MHz or 43.75MHz) and low IF (5.38MHz)
4. Differential IF input with programmable input signal level: 0.5Vpp to 2Vpp
5. NTSC interference rejection capability
6. Compensate echo up to -35 to +60 μ s range for terrestrial HDTV reception
7. Pass all Brazil fading channel ensembles
8. Meet all ATSC/A74 requirements.
9. On-chip programmable gain amplifier
10. 25MHz crystal for clock generation
11. Excellent adjacent and co-channel rejection capability, only single SAW is required
12. Full-digital timing recovery, no VCXO is required
13. Full-digital frequency offset recovery with wide acquisition range \pm 1MHz for ATSC and \pm 250kHz for CATV reception
14. Dual digital AGC controls for IF and RF respectively
15. MPEG-2 transport stream output in parallel or serial format
16. On-chip error rate estimators for TS packets, TCM decoder, and equalizer
17. EIA/CEA-909 antenna interface, both mode A and mode B are supported
18. Controlled by I2C interface
19. Supports sleep mode to save power consumption
20. Core power supply: 1.8V, peripheral power supply: 3.3V
21. 100-TQFP with lead free package

WM8776

The WM8776 is a high performance, stereo audio codec with five channel input selector. The WM8776 is ideal for surround sound processing applications for home hi-fi, DVD-RW and other audiovisual equipment. Each ADC channel has programmable gain control with automatic level control. Digital audio output word lengths from 16-32 bits and sampling rates from 32kHz to 96kHz are supported. The DAC has an input mixer allowing an external analogue signal to be mixed with the DAC signal. There are also Headphone and line outputs, with control for the headphone.

The WM8776 supports fully independent sample rates for the ADC and DAC. The audio data interface supports I2S, left justified, right justified and DSP formats.

Audio sample rate

The master clock for WM8776 supports DAC and ADC audio sampling rates 256fs to 768fs, where fs is the audio sample frequency (DACLRC or ADCLRC) typically 32KHZ, 44.1KHZ, 48KHZ or 96KHZ (the DAC also supports operation at 128fs and 192fs and 192KHZ sample rate). The master clock is used to operate the digital filters and the noise shaping circuits.

In slave mode the WM8776 has a master detection circuit that automatically determines the relationship between the master clock frequency and the sampling rate (to within +/- 32 system clocks) If there is a greater than 32 clocks error the interface is disabled and ADCLRC/DACLRC for optical performance, although the WM8776 is tolerant of phase variations or jitter on this clock.

Table shows the typical master clock frequency inputs for the WM8776.

SAMPLING RATE (DACLRC/ ADCLRC)	System Clock Frequency (MHz)					
	128fs	192fs	256fs	384fs	512fs	768fs
	DAC ONLY					
32kHz	4.096	6.144	8.192	12.288	16.384	24.576
44.1kHz	5.6448	8.467	11.2896	16.9340	22.5792	33.8688
48kHz	6.144	9.216	12.288	18.432	24.576	36.864
96kHz	12.288	18.432	24.576	36.864	Unavailable	Unavailable
192kHz	24.576	36.864	Unavailable	Unavailable	Unavailable	Unavailable

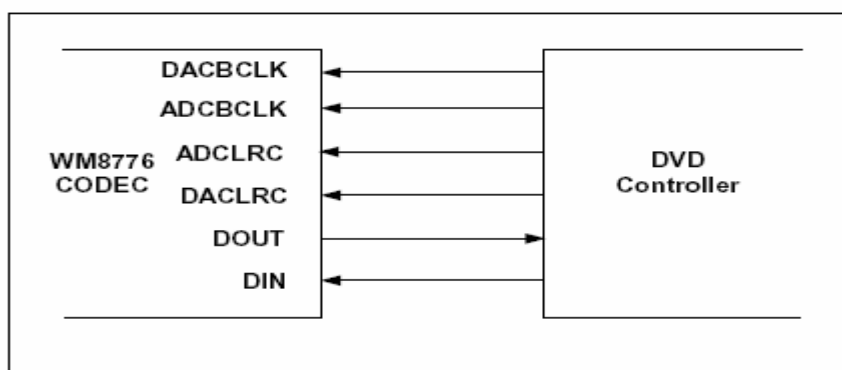
2. DIGITAL AUDIO INTERFACE

1. Slave mode

The audio interfaces operations in either slave mode selectable using the MS control bit. In slave mode DIN is always an input to the WM8776 and DOUT is always an output. The default is Slave mode. In slave mode (ms=0) ADCLRC, DACLRC, ADCBCLK, DACBCLK are input to the WM8776.

DIN and DACLRC are sampled by the WM8776 on the rising edge of DACBCLK; ADCLRC is sampled on the rising edge of ADCBCLK. ADC data is output on DOUT and changes on the falling edge of ADCBCLK. By setting control bit BCLKINV the polarity of ADCBCLK and DACBCLK may be reversed so that DIN and DACLRC are sample on the falling edge of DACBCLK, ADCLRC is sampled on the falling edge of ADCBCLK and DOUT changes on the rising of ADCBCLK.

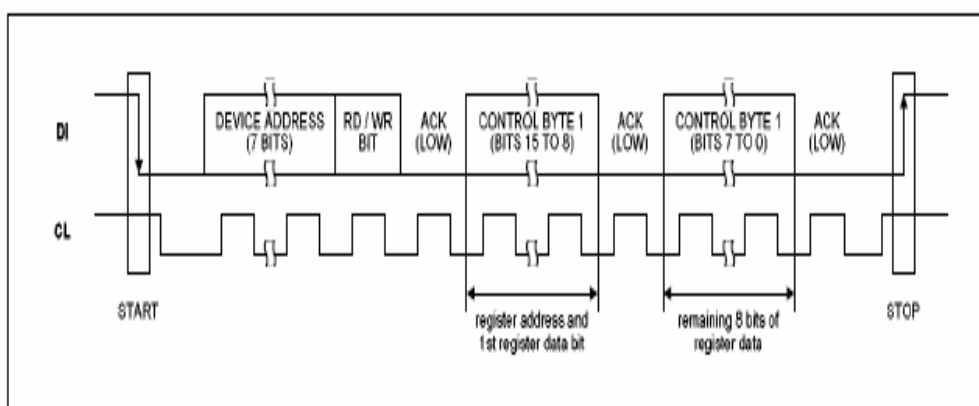
Slave mode as shown in the following figure.



2. 2 Wire serial control mode

The wm8776 supports software control via a 2-wire serial bus. Many devices can be controlled by the same bus, and each device has a unique 7-bit address (this is not the same as the 7-bit address of each register in the wm8776). The wm8776 operates as a slave device only.

2-wire serial interface as shown in the following figure.



The wm8776 has two possible device addresses, which can be selected using the CE pin. In the L32 LCD TV, the CE pin is LOW (device address is 34h).

CE STATE	DEVICE ADDRESS
Low	0011010 (0 x 34h)
High	0011011 (0 x 36h)

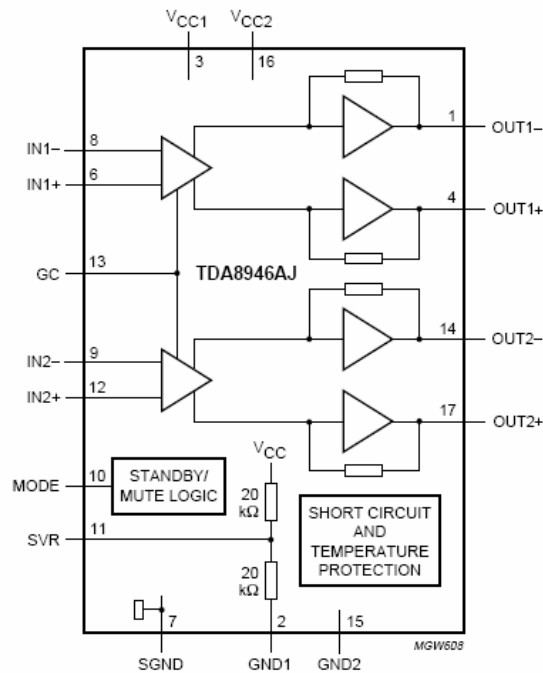
In the L32, the wm8776 has a 2-wire interface.

MODE	Control Mode
0	2 wire interface
1	3 wire interface

TDA8946

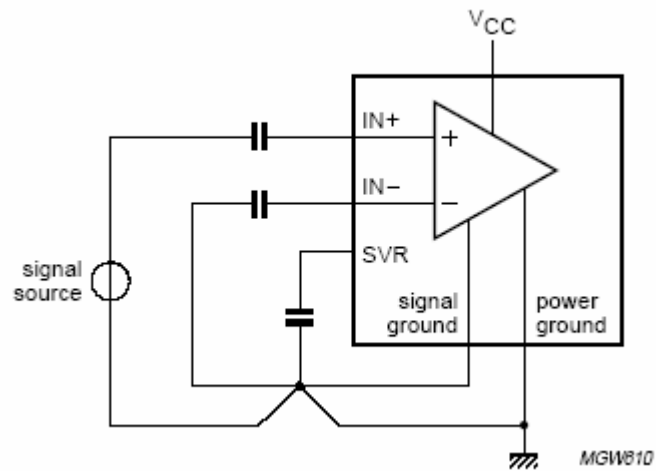
In L32 TV the TDA8946AJ is a dual-channel audio power amplifier with DC gain control. It has an output power of 2 – 10 W at an 8 Ω load and a 12 V supply.

Block diagram



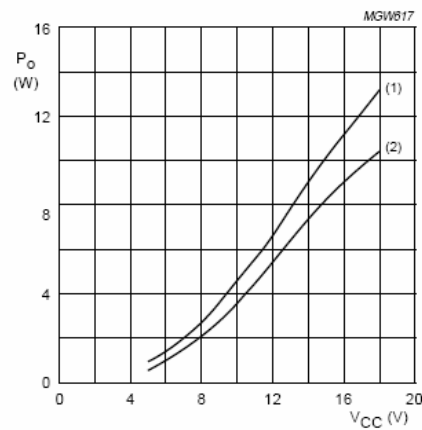
1. Input configuration

The TDA8946AJ inputs can be driven symmetrical (floating) as well as asymmetrical. In the asymmetrical mode one input pin is connected via a capacitor to the signal source and the other input is connected to the signal ground. The signal ground should be as close as possible to the SVR (electrolytic) capacitor ground. Note that the DC level of the input pins is half of the supply voltage VCC, so coupling capacitors for both pins are necessary.



2. Output power measurement

The output power as a function of the supply voltage is measured on the output pins at THD = 10%, in the L32 LCD TV $V_{CC}=12V$ so we can see as shown in the following figure output about 7W.



$R_L = 8 \Omega$

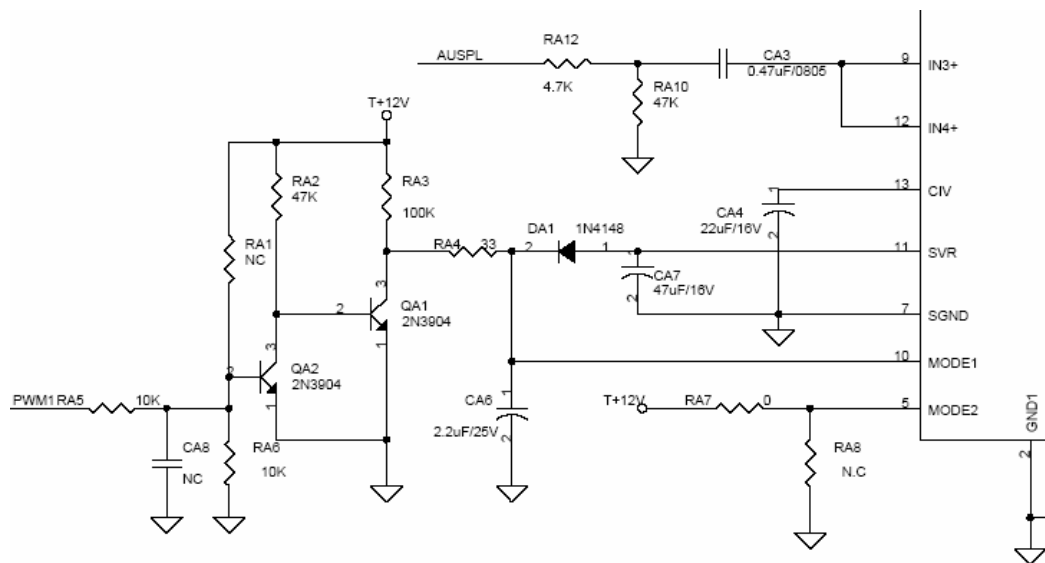
(1) THD = 10%

(2) THD = 1%

3. Mode selection

In the L32 LCD TV TDA8946AJ has two functional modes, which can be selected by applying the proper DC voltage to pin MODE.

1. Mute — In this mode the amplifier is DC-biased but not operational (no audio output). This allows the input coupling capacitors to be charged to avoid pop-noise. The device is in mute mode when $3.5\text{ V} < \text{VMODE} < (\text{VCC} - 1.5\text{ V})$.
2. Operating — In this mode the amplifier is operating normally. The operating mode is activated at $\text{VMODE} < 1.0\text{V}$.



Flash: MX29LV320BTTC

The MX29LV320AT/B is a 32-mega bit Flash memory organized as 4M bytes of 8 bits and 2M words of 16 bits. MXIC's Flash memories offer the most cost-effective and reliable read/write non-volatile random access memory.

The MX29LV320AT/B is packaged in 48-pin TSOP and 48-ball CSP. It is designed to be reprogrammed and erased in system or in standard EPROM programmers. The standard MX29LV320AT/B offers access time as fast as 70ns, allowing operation of high-speed microprocessors without wait states. To eliminate bus contention, the MX29LV320AT/B has separate chip enable (CE) and output enable (OE) controls.

MXIC's Flash memories augment EPROM functionality with in-circuit electrical erasure and programming. The MX29LV320AT/B uses a command register to manage this functionality. MXIC Flash technology reliably stores memory contents even after 100,000 erase and program cycles.

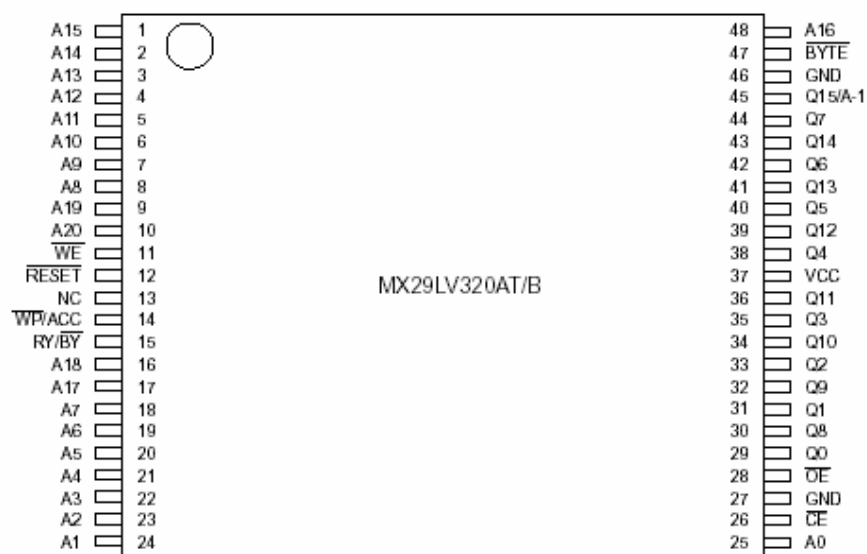
The MXIC cell is designed to optimize the erase and program mechanisms. In addition, the combination of advanced tunnel oxide processing and low internal electric fields for erase and programming operations produces reliable cycling.

The MX29LV320AT/B uses a 2.7V to 3.6V VCC supply to perform the High Reliability Erase and auto Program/Erase algorithms.

The highest degree of latch-up protection is achieved with MXIC's proprietary non-epi process. Latch-up protection is proved for stresses up to 100 milliamperes on address and data pin from -1V to VCC + 1V.

PIN CONFIGURATION

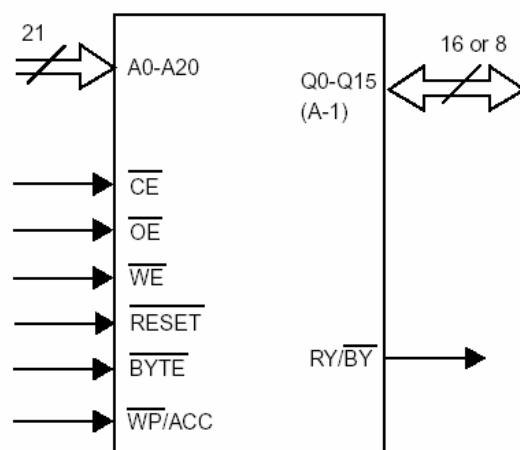
48 TSOP



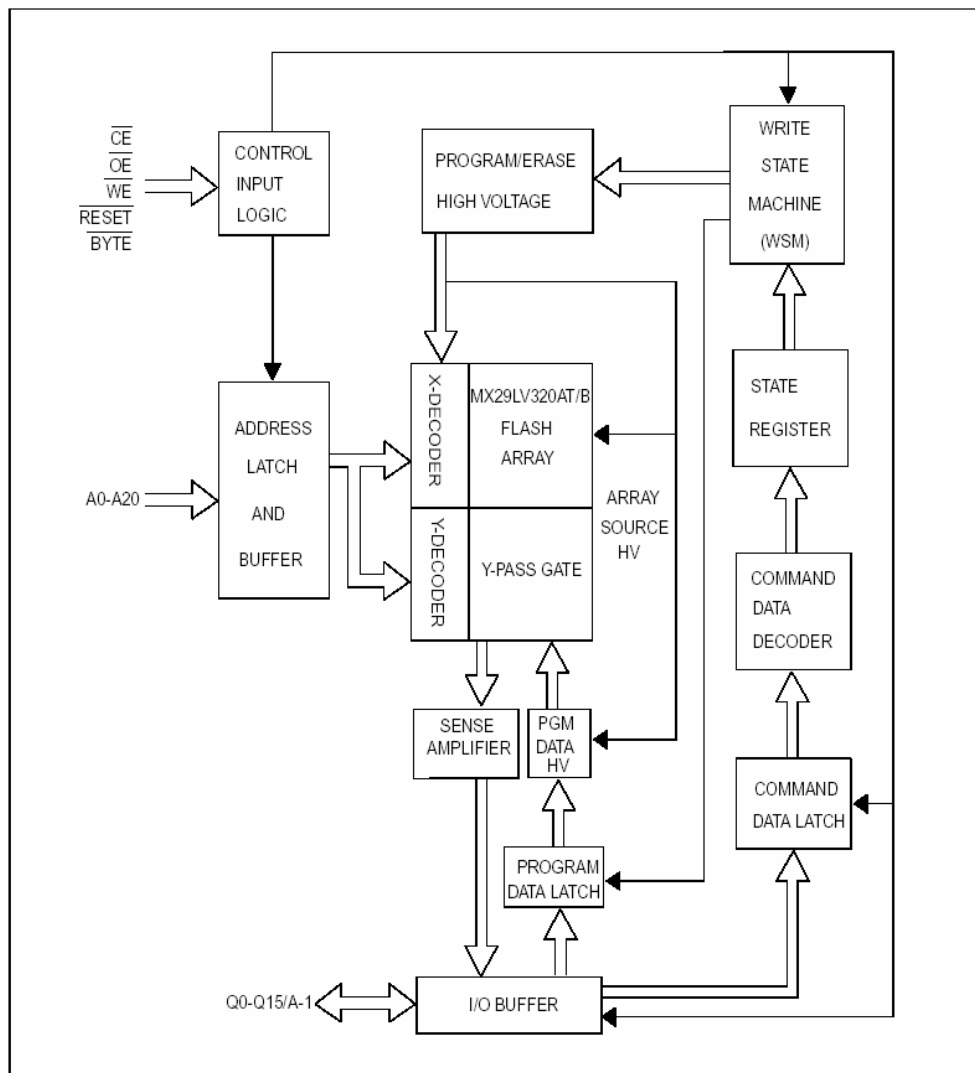
PIN DESCRIPTION

SYMBOL	PIN NAME
A0~A20	Address Input
Q0~Q14	15 Data Inputs/Outputs
Q15/A-1	Q15(Data Input/Output, word mode) A-1(LSB Address Input, byte mode)
CE	Chip Enable Input
WE	Write Enable Input
OE	Output Enable Input
BYTE	Word/Byte Selection Input
RESET	Hardware Reset Pin, Active Low
RY/BY	Read/Busy Output
VCC	3.0 volt-only single power supply
WP/ACC	Hardware Write Protect/Acceleration Pin
GND	Device Ground
NC	Pin Not Connected Internally

LOGIC SYMBOL



BLOCK DIAGRAM



BUS OPERATION-1

Operation	CE	OE	WE	RESET	WP/ACC	Addresses (Note 2)	Q0~Q7	Q8 ~ Q15	
								Byte=VIH	Byte=VIL
Read	L	L	H	H	L/H	A _{IN}	D _{OUT}	D _{OUT}	Q8-A14 =High-Z Q15=A-1
Write (Note 1)	L	H	L	H	Note 3	A _{IN}	D _{IN}	D _{IN}	
Accelerate Program	L	H	L	H	V _{HH}	A _{IN}	D _{IN}	D _{IN}	
Standby	VCC ± 0.3V	X	X	VCC ± 0.3V	H	X	High-Z	High-Z	High-Z
Output Disable	L	H	H	H	L/H	X	High-Z	High-Z	High-Z
Reset	X	X	X	L	L/H	X	High-Z	High-Z	High-Z
Sector Group Protect (Note 2)	L	H	L	V _{ID}	L/H	Sector Addresses, A6=L, A1=H, A0=L	D _{IN} , D _{OUT}	X	X
Chip Unprotect (Note 2)	L	H	L	V _{ID}	Note 3	Sector Addresses, A6=H, A1=H, A0=L	D _{IN} , D _{OUT}	X	X
Temporary Sector Group Unprotect	X	X	X	V _{ID}	Note 3	A _{IN}	D _{IN}	D _{IN}	High-Z

Legend:

L=Logic LOW=VIL, H=Logic High=VIH, VID=12.0 0.5V, VHH=11.5-12.5V, X=Don't Care, AIN=Address IN, DIN=Data IN, DOUT=Data OUT

Notes:

1. When the WP/ACC pin is at VHH, the device enters the accelerated program mode. See "Accelerated Program Operations" for more information.
2. The sector group protect and chip unprotect functions may also be implemented via programming equipment. See the "Sector Group Protection and Chip Unprotection" section.
3. If WP/ACC=VIL, the two outermost boot sectors remain protected. If WP/ACC=VIH, the two outermost boot sector protection depends on whether they were last protected or unprotected using the method described in "Sector/Sector Block Protection and Unprotection". If WP/ACC=VHH, all sectors will be unprotected.
4. DIN or DOUT as required by command sequence, data polling, or sector protection algorithm.
5. Address are A20:A0 in word mode (BYTE=VIH), A20:A-1 in byte mode (BYTE=VIL).

BUS OPERATION-2

Operation	\overline{CE}	\overline{OE}	\overline{WE}	A20 to A12	A11 to A10	A9	A8 to A7	A6	A5 to A2	A1	A0	Q0-Q7	Q8-Q15
Read Silicon ID Manufacturer Code	L	L	H	X	X	V _{ID}	X	L	X	L	L	C2H	X
Read Silicon ID MX29LV320AT	L	L	H	X	X	V _{ID}	X	L	X	L	H	A7H	22h(word) X (byte)
Read Silicon ID MX29LV320AB	L	L	H	X	X	V _{ID}	X	L	X	L	H	A8H	22h(word) X (byte)
Sector Protect Verification	L	L	H	SA	X	V _{ID}	X	L	X	H	L	01h(1), or 00h	X
Security Sector Indicator Bit (Q7)	L	L	H	X	X	V _{ID}	X	L	X	H	H	99h(2), or 19h	X

Notes:

- 1.Code=00h means unprotected, or code=01h protected.
- 2.Code=99 means factory locked, or code=19h not factory locked.

WRITE COMMANDS/COMMAND SEQUENCES

To program data to the device or erase sectors of memory , the system must drive WE and CE to VIL, and OE to VIH.An erase operation can erase one sector, multiple sectors , or the entire device. A "sector address" consists of the address bits required to uniquely select a sector. Writing specific address and data commands or sequences into the command register initiates device operations. Table A defines the valid register command sequences. Writing incorrect address and data values or writing them in the improper sequence resets the device to reading array data. Section has details on erasing a sector or the entire chip, or suspending/resuming the erase operation.

After the system writes the Automatic Select command sequence, the device enters the Automatic Select mode. The system can then read Automatic Select codes from the internal register (which is separate from the memory array) on Q7-Q0. Standard read cycle timings apply in this mode. Refer to the Automatic Select Mode and Automatic Select Command Sequence section for more information.ICC2 in the DC Characteristics table represents the active current specification for the write mode. The "AC Characteristics" section contains timing specification table and timing diagrams for write operations.

TABLE A. MX29LV320AT/B COMMAND DEFINITIONS

Command	Bus Cycles		First Bus Cycle		Second Bus Cycle		Third Bus Cycle		Fourth Bus Cycle		Fifth Bus Cycle		Sixth Bus Cycle	
			Addr	Data	Addr	Data	Addr	Data	Addr	Data	Addr	Data	Addr	Data
Read(Note 5)	1		RA	RD										
Reset(Note 4)	1		XXX	F0										
Automatic Select(Note 5)														
Manufacturer ID	Word	4	555	AA	2AA	55	555	90	X00	C2H				
	Byte	4	AAA	AA	555	55	AAA	90	X00	C2H				
Device ID	Word	4	555	AA	2AA	55	555	90	X01	ID				
	Byte	4	AAA	AA	555	55	AAA	90	X02					
Security Sector Factory	Word	4	555	AA	2AA	55	555	90	X03	99/19				
Protect Verify (Note 6)	Byte	4	AAA	AA	555	55	AAA	90	X06					
Sector Protect Verify (Note 7)	Word	4	555	AA	2AA	55	555	90	(SA)X02	00/01				
	Byte	4	AAA	AA	555	55	AAA	90	(SA)X04					
Enter Security Sector Region	Word	3	555	AA	2AA	55	555	88						
	Byte	3	AAA	AA	555	55	AAA	88						
Exit Security Sector	Word	4	555	AA	2AA	55	555	90	XXX	00				
	Byte	4	AAA	AA	555	55	AAA	90	XXX	00				
Program	Word	4	555	AA	2AA	55	555	A0	PA	PD				
	Byte	4	AAA	AA	555	55	AAA	A0	PA	PD				
Chip Erase	Word	6	555	AA	2AA	55	555	80	555	AA	2AA	55	555	10
	Byte	6	AAA	AA	555	55	AAA	80	AAA	AA	555	55	AAA	10
Sector Erase	Word	6	555	AA	2AA	55	555	80	555	AA	2AA	55	SA	30
	Byte	6	AAA	AA	555	55	AAA	80	AAA	AA	555	55	SA	30
CFI Query (Note 8)	Word	1	55	98										
	Byte	1	AA	98										
Erase Suspend(Note 9)	1		SA	B0										
Erase Resume(Note 10)	1		SA	30										

Legend:

X=Don't care

RA=Address of the memory location to be read.

RD=Data read from location RA during read operation.

PA=Address of the memory location to be programmed.

Addresses are latched on the falling edge of the WE or CE pulse.

PD=Data to be programmed at location PA. Data is latched on the rising edge of WE or CE pulse.

SA=Address of the sector to be erased or verified. Address bits A20-A12 uniquely select any sector.

ID=22A7h(Top), 22A8h(Bottom)

Notes:

1.All values are in hexadecimal.

2.Except when reading array or Automatic Select data, all bus cycles are write operation.

3.The Reset command is required to return to the read mode when the device is in the Automatic Select mode or if Q5 goes high.

4.The fourth cycle of the Automatic Select command sequence is a read cycle.

5.The data is 99h for factory locked and 19h for not factory locked.

6.The data is 00h for an unprotected sector/sector block and 01h for a protected sector/sector block. In the third cycle of the command sequence, address bit A20=0 to verify sectors 0~31, A20=1 to verify sectors 32~70 for Top Boot device.

-
7. Command is valid when device is ready to read array data or when device is in Automatic Select mode.
 8. The system may read and program functions in non-erasing sectors, or enter the Automatic Select mode, when in the erase Suspend mode. The Erase Suspend command is valid only during a sector erase operation.
 9. The Erase Resume command is valid only during the Erase Suspend mode.

STANDBY MODE

MX29LV320AT/B can be set into Standby mode with two different approaches. One is using both CE and RESET pins and the other one is using RESET pin only.

When using both pins of CE and RESET, a CMOS Standby mode is achieved with both pins held at $V_{cc} \pm 0.3V$. Under this condition, the current consumed is less than 0.2uA (typ.). If both of the CE and RESET are held at V_{IH} , but not within the range of $V_{CC} \pm 0.3V$, the device will still be in the standby mode, but the standby current will be larger. During Auto Algorithm operation, V_{cc} active current ($ICC2$) is required even CE = "H" until the operation is completed. The device can be read with standard access time (t_{CE}) from either of these standby modes.

When using only RESET, a CMOS standby mode is achieved with RESET input held at $V_{ss} \pm 0.3V$. Under this condition the current is consumed less than 1uA (typ.). Once the RESET pin is taken high, the device is back to active without recovery delay. In the standby mode the outputs are in the high impedance state, independent of the OE input. MX29LV320AT/B is capable to provide the Automatic Standby Mode to restrain power consumption during readout of data. This mode can be used effectively with an application requested low power consumption such as handy terminals.

To active this mode, MX29LV320AT/B automatically switch themselves to low power mode when MX29LV320AT/B addresses remain stable during access time of $t_{ACC} + 30ns$. It is not necessary to control CE, WE, and OE on the mode. Under the mode, the current consumed is typically 0.2uA (CMOS level).

RESET OPERATION

01 The RESET pin provides a hardware method of resetting the device to reading array data. When the RESET pin is driven low for at least a period of t_{RP} , the device immediately terminates any operation in progress, tristates all output pins, and ignores all read/write commands for the duration of the RESET pulse. The device also resets the internal state machine to reading array data. The operation that was interrupted should be reinitiated once the device is ready to accept another command sequence, to ensure data integrity.

Current is reduced for the duration of the RESET pulse. When RESET is held at $V_{SS} - 0.3V$, the device draws CMOS standby current (ICC4). If RESET is held at VIL but not within $V_{SS} - 0.3V$, the standby current will be greater. The RESET pin may be tied to system reset circuitry. A system reset would that also reset the Flash memory, enabling the system to read the boot-up firm-ware from the Flash memory.

If RESET is asserted during a program or erase operation, the RY/BY pin remains a "0" (busy) until the internal reset operation is complete, which requires a time of tREADY (during Embedded Algorithms). The system can thus monitor RY/BY to determine whether the reset operation is complete. If RESET is asserted when a program or erase operation is not executing (RY/BY pin is "1"), the reset operation is completed within a time of tREADY (not during Embedded Algorithms). The system can read data tRH after the RESET pin returns to VIH. Refer to the AC Characteristics tables for RESET parameters and to Figure 14 for the timing diagram.

WRITE PROTECT (WP)

The write protect function provides a hardware method to protect boot sectors without using VID.

If the system asserts VIL on the WP/ACC pin, the device disables program and erase functions in the two "outermost" 8 Kbyte boot sectors independently of whether those sectors were protected or unprotected using the method described in Sector/Sector Group Protection and Chip Unprotection". The two outermost 8 Kbyte boot sectors are the two sectors containing the lowest addresses in a bottom-boot-configured device, or the two sectors containing the highest addresses in a top-boot-configured device.

If the system asserts VIH on the WP/ACC pin, the device reverts to whether the two outermost 8K Byte boot sectors were last set to be protected or unprotected. That is, sector protection or unprotection for these two sectors depends on whether they were last protected or unprotected using the method described in "Sector/Sector Group Protection and Chip Unprotection".

Note that the WP/ACC pin must not be left floating or unconnected; inconsistent behavior of the device may result.

SOFTWARE COMMAND DEFINITIONS :

Device operations are selected by writing specific address and data sequences into the command register. Writing incorrect address and data values or writing them in the improper sequence will reset the device to the read mode. Table 3 defines the valid register command sequences. Note that the Erase Suspend (B0H) and Erase Resume (30H) commands are valid only while the Sector Erase operation is in progress. Either of the two reset command sequences will reset the device (when applicable).

All addresses are latched on the falling edge of WE or CE, whichever happens later. All data are latched on rising edge of WE or CE, whichever happens first.

WRITE OPERATION STATUS

The device provides several bits to determine the status of a write operation: Q2, Q3, Q5, Q6, Q7, and RY/BY. Table B and the following subsections describe the functions of these bits. Q7, RY/BY, and Q6 each offer a method for determining whether a program or erase operation is complete or in progress. These three bits are discussed first.

Table B. Write Operation Status

	Status		Q7 Note1	Q6	Q5 Note2	Q3	Q2	RY/BY
In Progress	Byte/Word Program in Auto Program Algorithm		$\overline{Q7}$	Toggle	0	N/A	No Toggle	0
	Auto Erase Algorithm		0	Toggle	0	1	Toggle	0
	Erase Suspended Mode	Erase Suspend Read (Erase Suspended Sector)	1	No Toggle	0	N/A	Toggle	1
		Erase Suspend Read (Non-Erase Suspended Sector)	Data	Data	Data	Data	Data	1
		Erase Suspend Program	$\overline{Q7}$	Toggle	0	N/A	N/A	0
Exceeded Time Limits	Byte/Word Program in Auto Program Algorithm		$\overline{Q7}$	Toggle	1	N/A	No Toggle	0
	Auto Erase Algorithm		0	Toggle	1	1	Toggle	0
	Erase Suspend Program		$\overline{Q7}$	Toggle	1	N/A	N/A	0

Notes:

- 1.Performing successive read operations from the erase-suspended sector will cause Q2 to toggle.
- 2.Performing successive read operations from any address will cause Q6 to toggle.
- 3.Reading the byte/word address being programmed while in the erase-suspend program mode will indicate logic "1" at the Q2 bit.
However, successive reads from the erase-suspended sector will cause Q2 to toggle.

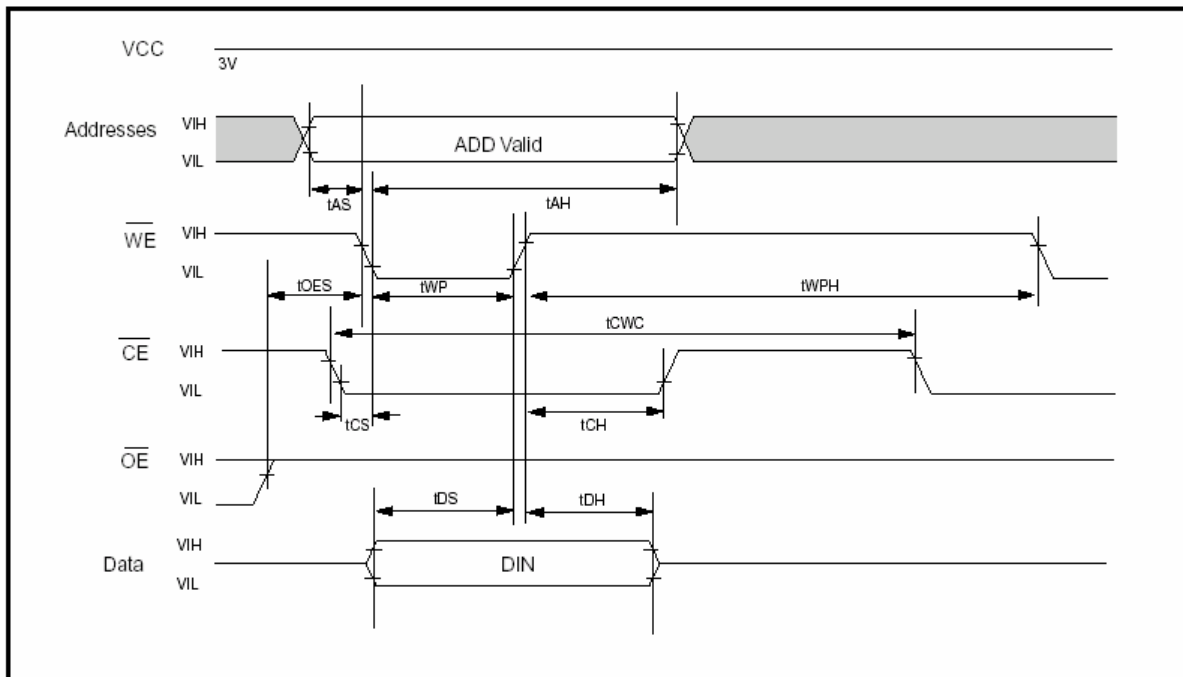
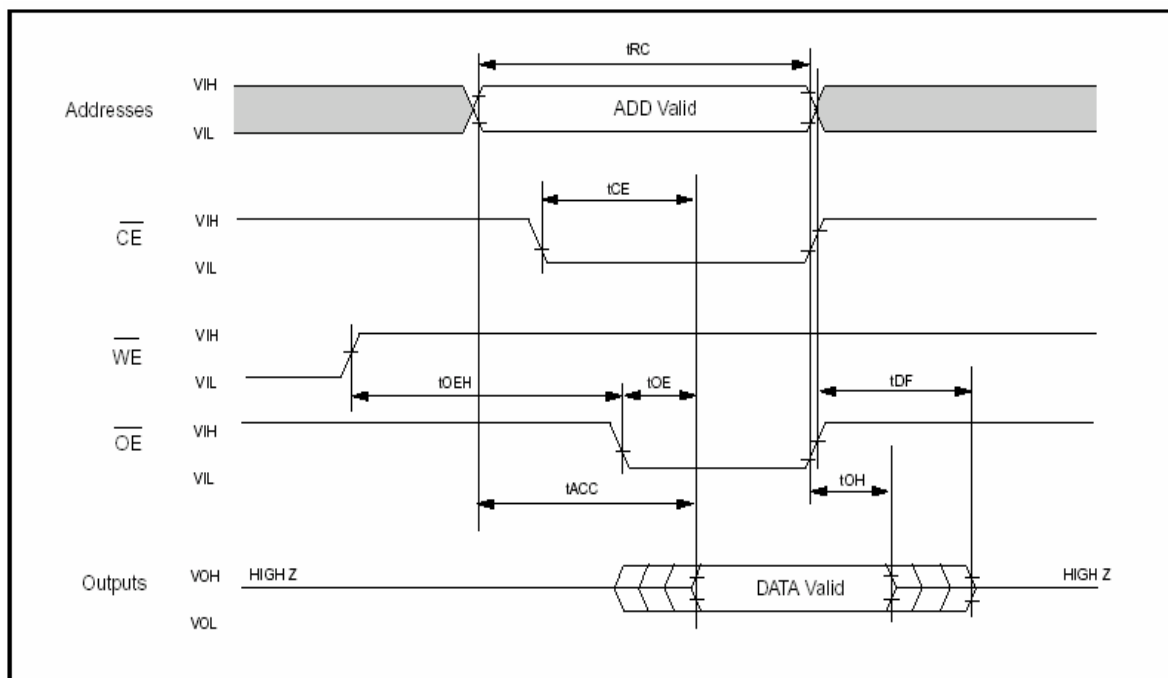


Fig D. READ TIMING WAVEFORMS

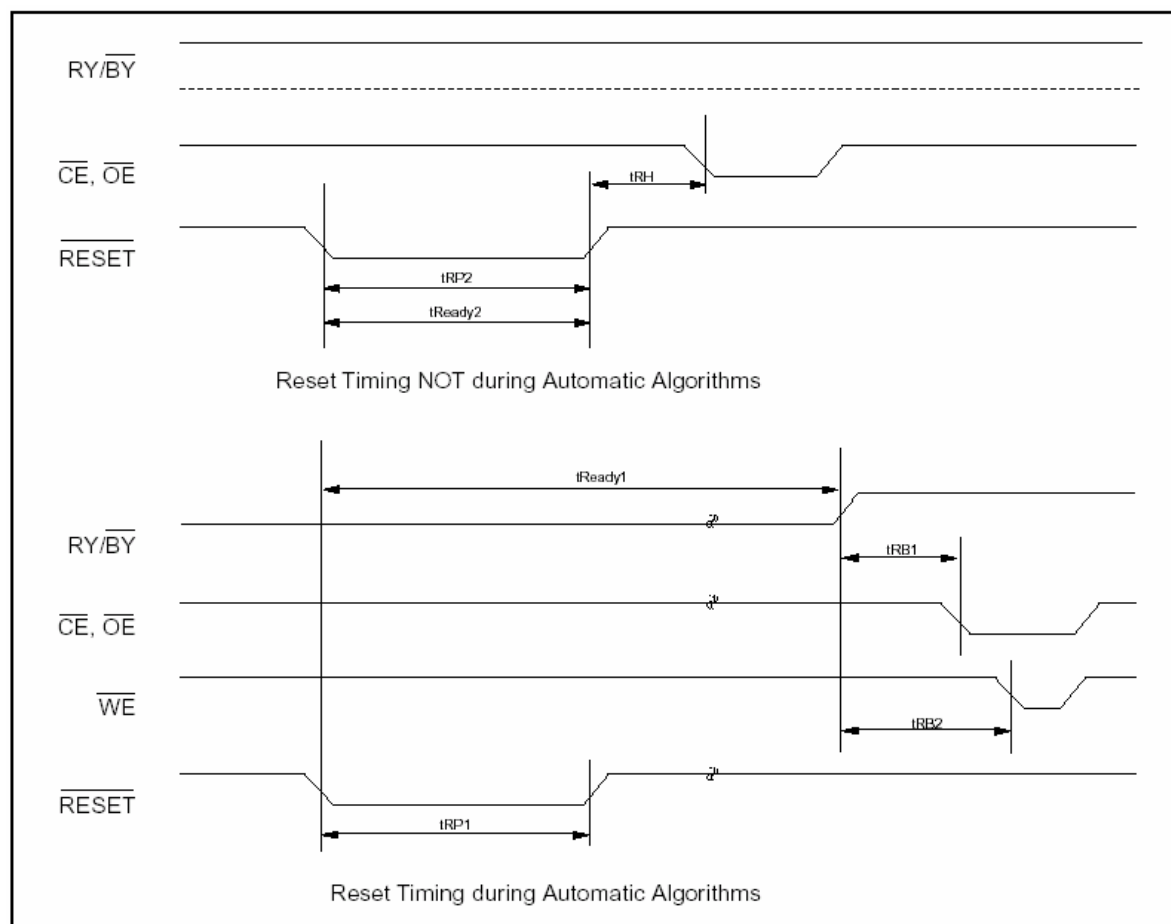


AC CHARACTERISTICS

Parameter	Description	Test Setup	All Speed Options	Unit
tREADY1	RESET PIN Low (During Automatic Algorithms) to Read or Write (See Note)	MAX	20	us
tREADY2	RESET PIN Low (NOT During Automatic Algorithms) to Read or Write (See Note)	MAX	500	ns
tRP1	RESET Pulse Width (During Automatic Algorithms)	MIN	10	us
tRP2	RESET Pulse Width (NOT During Automatic Algorithms)	MIN	500	ns
tRH	RESET High Time Before Read (See Note)	MIN	70	ns
tRB1	RY/BY Recovery Time(to \overline{CE} , \overline{OE} go low)	MIN	0	ns
tRB2	RY/BY Recovery Time(to \overline{WE} go low)	MIN	50	ns

Note: Not 100% tested

Fig E. RESET TIMING WAVEFORM



DRAM: (NT5DS16M16CS)

The 256Mb DDR SDRAM is a high-speed CMOS, dynamic random-access memory containing 268, 435, 456 bits. The 256Mb DDR SDRAM is internally configured as a quad-bank DRAM.

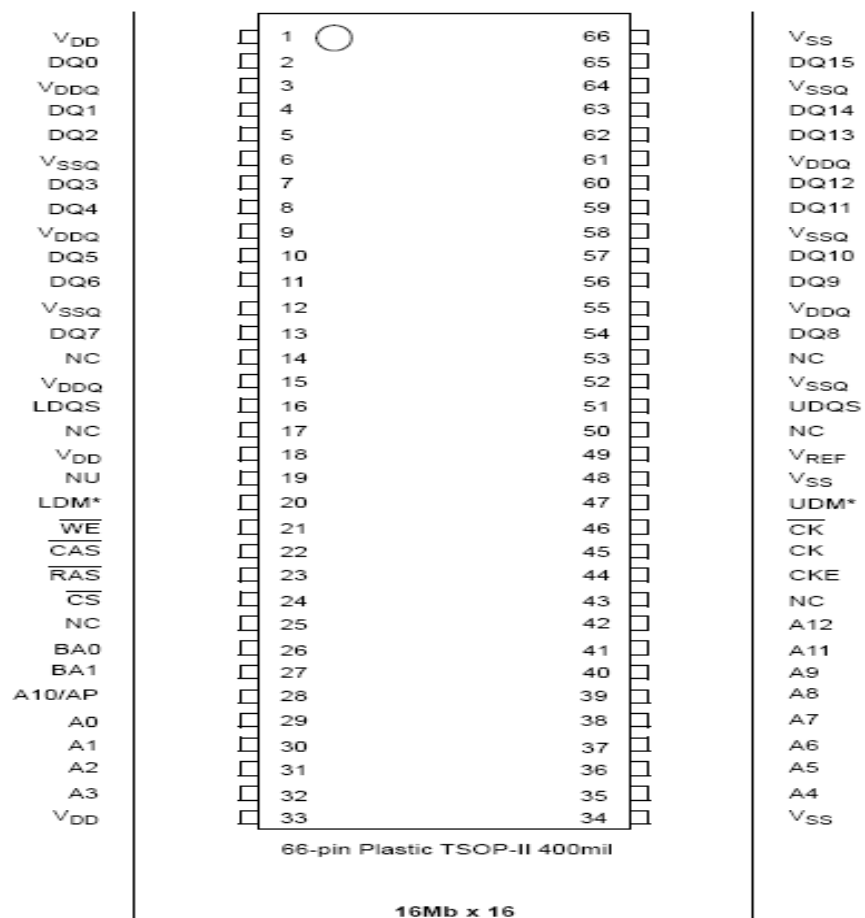
The 256Mb DDR SDRAM uses a double-data-rate architecture to achieve high-speed operation. The double-data-rate architecture is essentially a $2n$ prefetch architecture, with an interface designed to transfer two data words per clock cycle at the I/O pins. A single read or write access for the 256Mb DDR SDRAM consists of a single $2n$ -bit wide, one clock cycle data transfer at the internal DRAM core and two corresponding n -bit wide, one-half clock cycle data transfers at the I/O pins.

Read and write accesses to the DDR SDRAM are burst oriented; accesses start at a selected location and continue for a programmed number of locations in a programmed sequence. Accesses begin with the registration of an Active command, which is then followed by a Read or Write command.

The address bits registered coincident with the Active command are used to select the bank and row to be accessed (BA0, BA1 select the bank; A0-A12 select the row). The address bits registered coincident with the Read or Write command are used to select the starting column location for the burst access.

Prior to normal operation, the DDR SDRAM must be initialized. The following sections provide detailed information covering device initialization, register definition, command descriptions and device operation.

1. Pin Configuration



2. Input/Output Functional Description

Symbol	Type	Function
CK, $\overline{\text{CK}}$	Input	Clock: CK and $\overline{\text{CK}}$ are differential clock inputs. All address and control input signals are sampled on the crossing of the positive edge of CK and negative edge of $\overline{\text{CK}}$. Output (read) data is referenced to the crossings of CK and $\overline{\text{CK}}$ (both directions of crossing).
CKE, CKE0, CKE1	Input	Clock Enable: CKE HIGH activates, and CKE Low deactivates, internal clock signals and device input buffers and output drivers. Taking CKE Low provides Precharge Power Down and Self Refresh operation (all banks idle), or Active Power Down (row Active in any bank). CKE is synchronous for power down entry and exit, and for self refresh entry. CKE is asynchronous for self refresh exit. CKE must be maintained high throughout read and write accesses. Input buffers, excluding CK, $\overline{\text{CK}}$ and CKE are disabled during Power Down. Input buffers, excluding CKE, are disabled during self refresh. The standard pinout includes one CKE pin. Optional pinouts might include CKE1 on a different pin, in addition to CKE0, to facilitate independent power down control of stacked devices.
$\overline{\text{CS}}$, $\overline{\text{CS0}}$, $\overline{\text{CS1}}$	Input	Chip Select: All commands are masked when $\overline{\text{CS}}$ is registered high. $\overline{\text{CS}}$ provides for external bank selection on systems with multiple banks. CS is considered part of the command code. The standard pinout includes one $\overline{\text{CS}}$ pin. Optional pinouts might include $\overline{\text{CS1}}$ on a different pin, in addition to $\overline{\text{CS0}}$, to allow upper or lower deck selection on stacked devices.
$\overline{\text{RAS}}$, $\overline{\text{CAS}}$, $\overline{\text{WE}}$	Input	Command Inputs: $\overline{\text{RAS}}$, $\overline{\text{CAS}}$ and $\overline{\text{WE}}$ (along with $\overline{\text{CS}}$) define the command being entered.
DM	Input	Input Data Mask: DM is an input mask signal for write data. Input data is masked when DM is sampled high coincident with that input data during a Write access. DM is sampled on both edges of DQS. Although DM pins are input only, the DM loading matches the DQ and DQS loading. During a Read, DM can be driven high, low, or floated.
BA0, BA1	Input	Bank Address Inputs: BA0 and BA1 define to which bank an Active, Read, Write or Precharge command is being applied. BA0 and BA1 also determines if the mode register or extended mode register is to be accessed during a MRS or EMRS cycle.
A0 - A12	Input	Address Inputs: Provide the row address for Active commands, and the column address and Auto Precharge bit for Read/Write commands, to select one location out of the memory array in the respective bank. A10 is sampled during a Precharge command to determine whether the Precharge applies to one bank (A10 low) or all banks (A10 high). If only one bank is to be precharged, the bank is selected by BA0, BA1. The address inputs also provide the op-code during a Mode Register Set command.
DQ	Input/Output	Data Input/Output: Data bus.
DQS, LDQS, UDQS	Input/Output	Data Strobe: Output with read data, input with write data. Edge-aligned with read data, centered in write data. Used to capture write data. For the x16, LDQS corresponds to the data on DQ0-DQ7; UDQS corresponds to the data on DQ8-DQ15.
NC		No Connect: No internal electrical connection is present.
NU		Electrical connection is present. Should not be connected at second level of assembly.
V_{DDQ}	Supply	DQ Power Supply: $2.5\text{V} \pm 0.2\text{V}$.
V_{SSQ}	Supply	DQ Ground
V_{DD}	Supply	Power Supply: $2.5\text{V} \pm 0.2\text{V}$.
V_{SS}	Supply	Ground
V_{REF}	Supply	SSTL_2 reference voltage: $(V_{\text{DDQ}} / 2) \pm 1\%$.

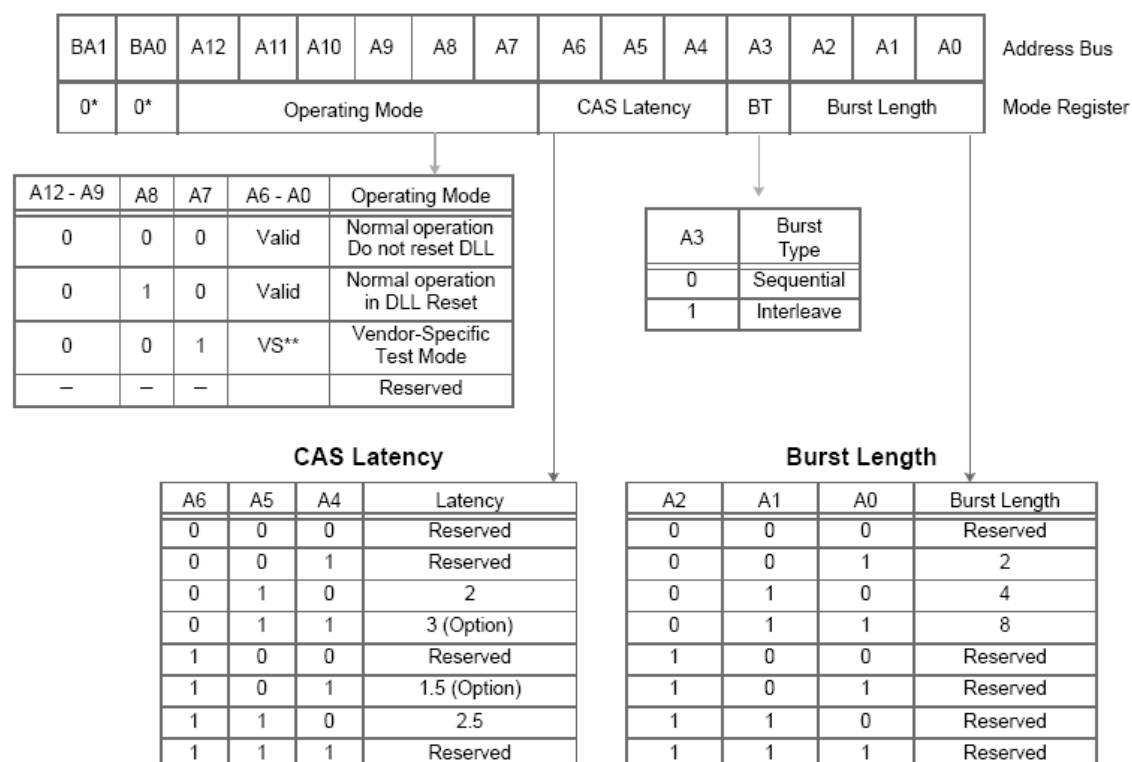
The DQ and DQS outputs are in the High-Z state, where they remain until driven in normal operation (by a read access). After all power supply and reference voltages are stable, and the clock is stable, the DDR SDRAM requires a 200µs delay prior to applying an executable command.

Once the 200µs delay has been satisfied, a Deselect or NOP command should be applied, and CKE must be brought HIGH. Following the NOP command, a Precharge ALL command must be applied. Next a Mode Register Set command must be issued for the Extended Mode Register, to enable the DLL, then a Mode Register Set command must be issued for the Mode Register, to reset the DLL, and to program the operating parameters. 200 clock cycles are required between the DLL reset and any read command.

A Precharge ALL command should be applied, placing the device in the “all banks idle” state. Once in the idle state, two auto refresh cycles must be performed. Additionally, a Mode Register Set command for the Mode Register, with the reset DLL bit deactivated (i.e. to program operating parameters without resetting the DLL) must be performed. Following these cycles, the DDR SDRAM is ready for normal operation.

DDR SDRAM's may be reinitialized at any time during normal operation by asserting a valid MRS command to either the base or extended mode registers without affecting the contents of the memory array. The contents of either the mode register or extended mode register can be modified at any valid time during device operation without affecting the state of the internal address refresh counters used for device refresh.

5. Register Definition



VS** Vendor Specific

* BA0 and BA1 must be 0, 0 to select the Mode Register (vs. the Extended Mode Register).

6. Burst Definition

Burst Length	Starting Column Address			Order of Accesses Within a Burst	
	A2	A1	A0	Type = Sequential	Type = Interleaved
2			0	0-1	0-1
			1	1-0	1-0
4		0	0	0-1-2-3	0-1-2-3
		0	1	1-2-3-0	1-0-3-2
		1	0	2-3-0-1	2-3-0-1
		1	1	3-0-1-2	3-2-1-0
8	0	0	0	0-1-2-3-4-5-6-7	0-1-2-3-4-5-6-7
	0	0	1	1-2-3-4-5-6-7-0	1-0-3-2-5-4-7-6
	0	1	0	2-3-4-5-6-7-0-1	2-3-0-1-6-7-4-5
	0	1	1	3-4-5-6-7-0-1-2	3-2-1-0-7-6-5-4
	1	0	0	4-5-6-7-0-1-2-3	4-5-6-7-0-1-2-3
	1	0	1	5-6-7-0-1-2-3-4	5-4-7-6-1-0-3-2
	1	1	0	6-7-0-1-2-3-4-5	6-7-4-5-2-3-0-1
	1	1	1	7-0-1-2-3-4-5-6	7-6-5-4-3-2-1-0

Notes:

1. For a burst length of two, A1-A_i selects the two-data-element block; A0 selects the first access within the block.
2. For a burst length of four, A2-A_i selects the four-data-element block; A0-A1 selects the first access within the block.
3. For a burst length of eight, A3-A_i selects the eight-data- element block; A0-A2 selects the first access within the block.
4. Whenever a boundary of the block is reached within a given sequence above, the following access wraps within the block.

Burst Type

Accesses within a given burst may be programmed to be either sequential or interleaved; this is referred to as the burst type and is selected via bit A3. The ordering of accesses within a burst is determined by the burst length, the burst type and the starting column address, as shown in *Burst Definition* on page 11.

Read Latency

The Read latency, or CAS latency, is the delay, in clock cycles, between the registration of a Read command and the availability of the first burst of output data. The latency can be programmed 2 or 2.5 clocks.

If a Read command is registered at clock edge n , and the latency is m clocks, the data is available nominally coincident with clock edge $n + m$. Reserved states should not be used as unknown operation or incompatibility with future versions may result.

Operating Mode

The normal operating mode is selected by issuing a Mode Register Set Command with bits A7-A12 to zero, and bits A0-A6 set to the desired values. A DLL reset is initiated by issuing a Mode Register Set command with bits A7 and A9-A12 each set to zero, bit A8 set to one, and bits A0-A6 set to the desired values. A Mode Register Set command issued to reset the DLL should always be followed by a Mode Register Set command to select normal operating mode. All other combinations of values for A7-A12 are reserved for future use and/or test modes. Test modes and reserved states should not be used as unknown operation or incompatibility with future versions may result.

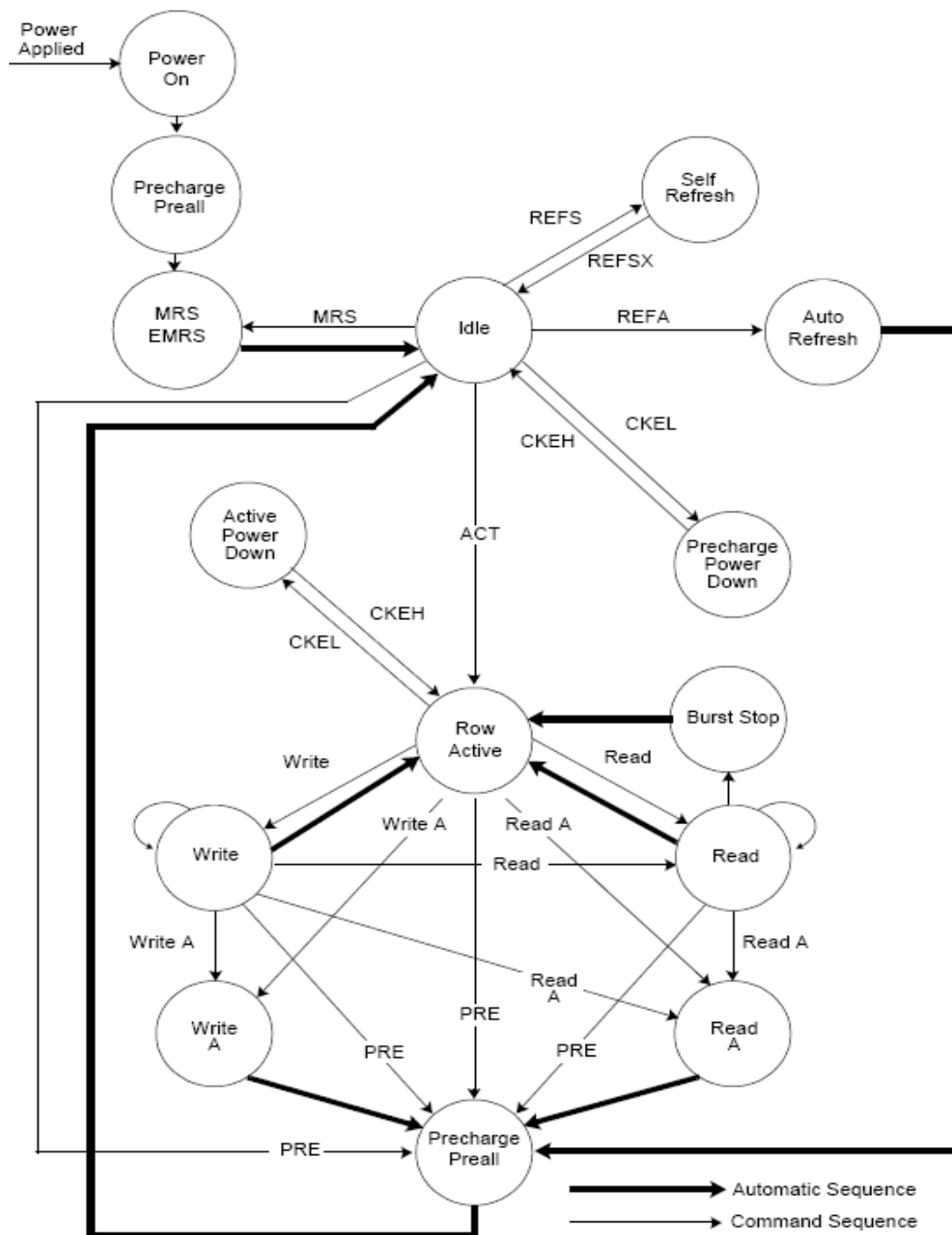
DLL Enable/Disable

The DLL must be enabled for normal operation. DLL enable is required during power up initialization, and upon returning to normal operation after having disabled the DLL for the purpose of debug or evaluation.

The DLL is automatically disabled when entering self refresh operation and is automatically re-enabled upon exit of self refresh operation. Any time the DLL is enabled, 200 clock cycles must occur to allow time for the internal clock to lock to the externally applied clock before a Read command can be issued.

This is the reason for introducing timing parameter tXSRD for DDR SDRAM's (Exit Self Refresh to Read Command). Non- Read commands can be issued 2 clocks after the DLL is enabled via the EMRS command (tMRD) or 10 clocks after the DLL is enabled via self refresh exit command (tXSNR, Exit Self Refresh to Non-Read Command).

7. Simplified State Diagram



PREALL = Precharge All Banks
 MRS = Mode Register Set
 EMRS = Extended Mode Register Set
 REFS = Enter Self Refresh
 REFSX = Exit Self Refresh
 REFA = Auto Refresh

CKEL = Enter Power Down
 CKEH = Exit Power Down
 ACT = Active
 Write A = Write with Autoprecharge
 Read A = Read with Autoprecharge
 PRE = Precharge

8. Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{IN}, V_{OUT}	Voltage on I/O pins relative to V_{SS}	-0.5 to $V_{DDQ} + 0.5$	V
V_{IN}	Voltage on Inputs relative to V_{SS}	-0.5 to $+3.6$	V
V_{DD}	Voltage on V_{DD} supply relative to V_{SS}	-0.5 to $+3.6$	V
V_{DDQ}	Voltage on V_{DDQ} supply relative to V_{SS}	-0.5 to $+3.6$	V
T_A	Operating Temperature (Ambient)	0 to $+70$	$^{\circ}\text{C}$
T_{STG}	Storage Temperature (Plastic)	-55 to $+150$	$^{\circ}\text{C}$
P_D	Power Dissipation	1.0	W
I_{OUT}	Short Circuit Output Current	50	mA

Note: Stresses greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only, and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

9. Capacitance

Parameter	Symbol	Min.	Max.	Units	Notes
Input Capacitance: CK, $\overline{\text{CK}}$	Cl_1	2.0	3.0	pF	1
Delta Input Capacitance: CK, $\overline{\text{CK}}$	$\text{delta } Cl_1$		0.25	pF	1
Input Capacitance: All other input-only pins (except DM)	Cl_2	2.0	3.0	pF	1
Delta Input Capacitance: All other input-only pins (except DM)	$\text{delta } Cl_2$		0.5	pF	1
Input/Output Capacitance: DQ, DQS, DM	C_{IO}	4.0	5.0	pF	1, 2
Delta Input/Output Capacitance: DQ, DQS, DM	$\text{delta } C_{IO}$		0.5	pF	1

1. $V_{DDQ} = V_{DD} = 2.5\text{V} \pm 0.2\text{V}$ (minimum range to maximum range), $f = 100\text{MHz}$, $T_A = 25^{\circ}\text{C}$, $V_{ODC} = V_{DDQ/2}$, $V_{O_{Peak-Peak}} = 0.2\text{V}$.
2. Although DM is an input-only pin, the input capacitance of this pin must model the input capacitance of the DQ and DQS pins. This is required to match input propagation times of DQ, DQS and DM in the system.

10. DC Electrical Characteristics and Operating Conditions

(0°C ≤ TA ≤ 70°C; VDDQ = 2.5V ± 0.2V, VDD = + 2.5V ± 0.2V, see AC Characteristics)

Symbol	Parameter	Min	Max	Units	Notes
V _{DD}	Supply Voltage	2.3	2.7	V	1
V _{DDQ}	I/O Supply Voltage	2.3	2.7	V	1
V _{SS} , V _{SSQ}	Supply Voltage I/O Supply Voltage	0	0	V	
V _{REF}	I/O Reference Voltage	0.49 x V _{DDQ}	0.51 x V _{DDQ}	V	1, 2
V _{TT}	I/O Termination Voltage (System)	V _{REF} - 0.04	V _{REF} + 0.04	V	1, 3
V _{IH(DC)}	Input High (Logic1) Voltage	V _{REF} + 0.15	V _{DDQ} + 0.3	V	1
V _{IL(DC)}	Input Low (Logic0) Voltage	- 0.3	V _{REF} - 0.15	V	1
V _{IN(DC)}	Input Voltage Level, CK and $\overline{\text{CK}}$ Inputs	- 0.3	V _{DDQ} + 0.3	V	1
V _{ID(DC)}	Input Differential Voltage, CK and $\overline{\text{CK}}$ Inputs	0.30	V _{DDQ} + 0.6	V	1, 4
V _{IX(DC)}	Input Crossing Point Voltage, CK and $\overline{\text{CK}}$ Inputs	0.30	V _{DDQ} + 0.6	V	1, 4
V _{I Ratio}	V-I Matching Pullup Current to Pulldown Current Ratio	0.71	1.4		5
I _I	Input Leakage Current Any input 0V ≤ V _{IN} ≤ V _{DD} ; (All other pins not under test = 0V)	- 5	5	μA	1
I _{OZ}	Output Leakage Current (DQs are disabled; 0V ≤ V _{out} ≤ V _{DDQ})	- 5	5	μA	1
I _{OH}	Output Current: Nominal Strength Driver High current (V _{OUT} = V _{DDQ} - 0.373V, min V _{REF} , min V _{TT})	- 16.8		mA	1
I _{OL}	Low current (V _{OUT} = 0.373V, max V _{REF} , max V _{TT})	16.8			

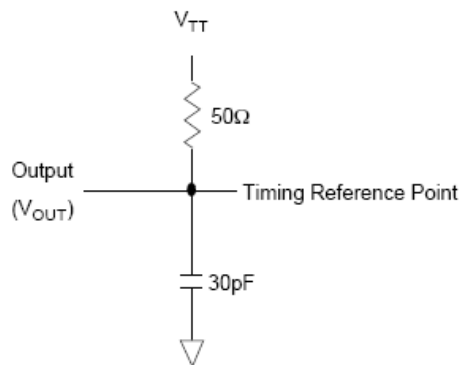
Symbol	Parameter	Min	Max	Units	Notes
I _{OHW}	Output Current: Half- Strength Driver High current (V _{OUT} = V _{DDQ} - 0.763V, min V _{REF} , min V _{TT})	- 9.0		mA	1
I _{OLW}	Low current (V _{OUT} = 0.763V, max V _{REF} , max V _{TT})	9.0			

- Inputs are not recognized as valid until V_{REF} stabilizes.
- V_{REF} is expected to be equal to 0.5 V_{DDQ} of the transmitting device, and to track variations in the DC level of the same. Peak-to-peak noise on V_{REF} may not exceed ± 2% of the DC value.
- V_{TT} is not applied directly to the device. V_{TT} is a system supply for signal termination resistors, is expected to be set equal to V_{REF}, and must track variations in the DC level of V_{REF}.
- V_{ID} is the magnitude of the difference between the input level on CK and the input level on $\overline{\text{CK}}$.
- The ratio of the pullup current to the pulldown current is specified for the same temperature and voltage, over the entire temperature and voltage range, for device drain to source voltages for 0.25 volts to 1.0 volts. For a given output, it represents the maximum difference between pullup and pulldown drivers due to process variation.

11. AC Characteristics

1. All voltages referenced to VSS.
2. Tests for AC timing, IDD, and electrical, AC and DC characteristics, may be conducted at nominal reference/supply voltage levels, but the related specifications and device operation are guaranteed for the full voltage range specified.
3. Outputs measured with equivalent load. Refer to the AC Output Load Circuit below.
4. AC timing and IDD tests may use a VIL to VIH swing of up to 1.5V in the test environment, but input timing is still referenced to VREF (or to the crossing point for CK, CK), and parameter specifications are guaranteed for the specified AC input levels under normal use conditions. The minimum slew rate for the input signals is 1V/ns in the range between VIL(AC) and VIH(AC).
5. The AC and DC input level specifications are as defined in the SSTL_2 Standard (i.e. the receiver effectively switches as a result of the signal crossing the AC input level, and remains in that state as long as the signal does not ring back above (below) the DC input low (high) level.

AC Output Load Circuit Diagrams



AC Input Operating Conditions

(0 °C ≤ TA ≤ 70 °C; VDDQ = VDD = 2.5V ± 0.2V (DDR333); VDDQ = VDD = 2.6V ± 0.1V (DDR400); See AC Characteristics)

Symbol	Parameter/Condition	Min	Max	Unit	Notes
V _{IH(AC)}	Input High (Logic 1) Voltage, DQ, DQS, and DM Signals	V _{REF} + 0.31		V	1, 2
V _{IL(AC)}	Input Low (Logic 0) Voltage, DQ, DQS, and DM Signals		V _{REF} - 0.31	V	1, 2
V _{ID(AC)}	Input Differential Voltage, CK and $\overline{\text{CK}}$ Inputs	0.62	V _{DDQ} + 0.6	V	1, 2, 3
V _{IX(AC)}	Input Crossing Point Voltage, CK and $\overline{\text{CK}}$ Inputs	0.5*V _{DDQ} - 0.2	0.5*V _{DDQ} + 0.2	V	1, 2, 4
<div>1. Input slew rate = 1V/ns. 2. Inputs are not recognized as valid until V_{REF} stabilizes. 3. V_{ID} is the magnitude of the difference between the input level on CK and the input level on $\overline{\text{CK}}$. 4. The value of V_{IX} is expected to equal 0.5*V_{DDQ} of the transmitting device and must track variations in the DC level of the same.</div>					

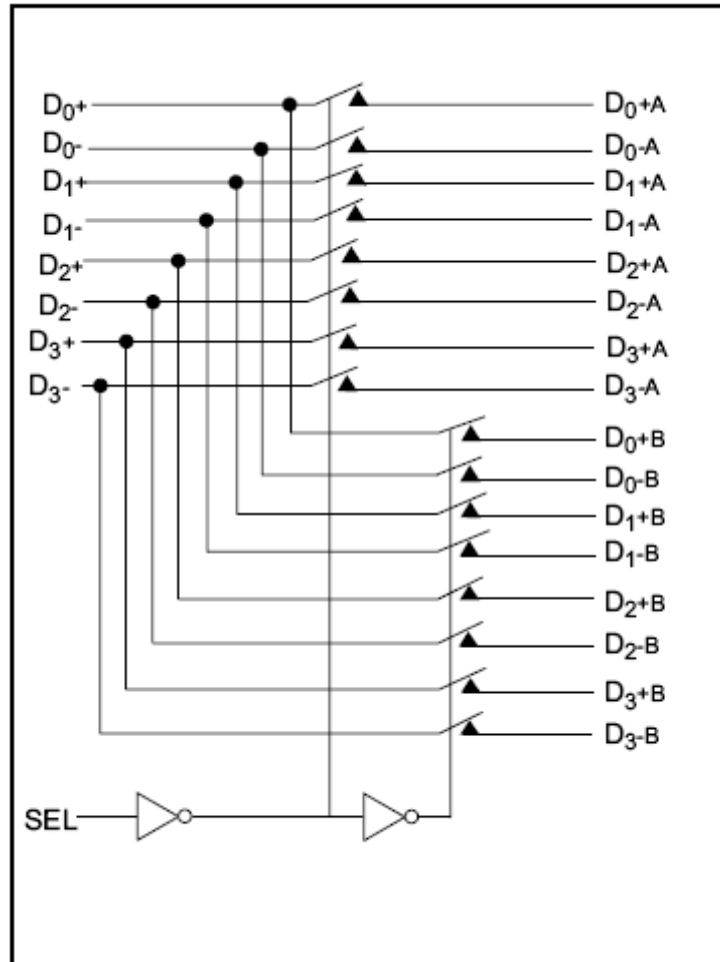
PI3HDMI412FT

Pericom Semiconductor's PI3HDMI series of switch circuits are targeted for high-resolution video networks that are based on DVI/HDMI standards, and TMDS signal processing. The PI3HDMI412FT is an 8- to 4-Channel Mux/DeMux Switch. The device multiplexes differential signals to one of two corresponding outputs. The switch is bidirectional and offers little or no attenuation of the high-speed signals at the outputs. It is designed for low bit-to-bit skew and high channel-to-channel noise isolation.

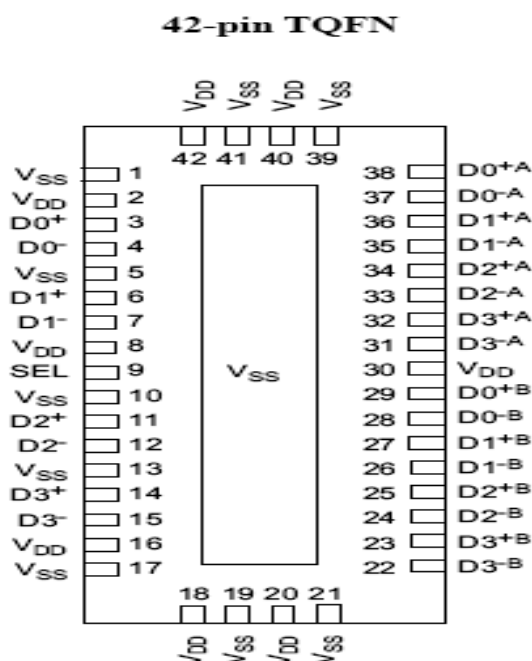
The maximum DVI/HDMI data rate of 1.65Gbps provides the resolution required by the next generation HDTV and PC graphics. Three differential channels are used for data (video signals for DVI or audio/video signals for HDMI), and one differential channel is used for Clock for decoding the TMDS signals at the outputs.

Because of its passive bidirectional feature, this switch can be used either at the video drivers side or at the receiver side. For PC graphics applications, the device sits at the drivers side to switch between multiple display units such as PC LCD monitor, projector, TV, etc. For consumer video applications, the device sits at the receiver end to switch between the sources components such as DVD, D-VHS, STB, etc.

Block Diagram



Pin Description



Pin Description

Pin # (BQSOP)	Pin # (TQFN)	Pin Name	Description
2, 4, 12, 21, 23, 25, 36, 48	2, 8, 16, 18, 20, 30, 40, 42	V _{DD}	+ Power supply 3.30
1, 3, 5, 8, 11, 14, 17, 20, 22, 24, 26, 31, 37, 42, 47	1, 5, 10, 13, 17, 19, 21, 39, 41	V _{SS}	- Power supply
13	9	SEL	Select pin, see truth table
6, 7, 9, 10, 15, 16, 18, 19, 27-30, 32-35, 38-41, 43-46	3, 4, 6, 7, 11, 12, 14, 15, 22-29, 31-38,	Dx ^{+/-x} + CLK ^{+/-x}	Data + Clk bits for TMDS signal

Maximum Ratings

Storage Temperature.....	-65°C to +150°C
Supply Voltage to V _{SS} Potential.....	-0.5V to +2.5V
DC Input Voltage	V _{SS} to V _{DD}
DC Output Current.....	120mA

DC Power Supply Characteristics

Parameter	Description	Min.	Max.	Units
V_{DD}	Positive Power Supply	3.0	3.6	V
V_{SS}	Negative Power Supply	1.5	1.6	V

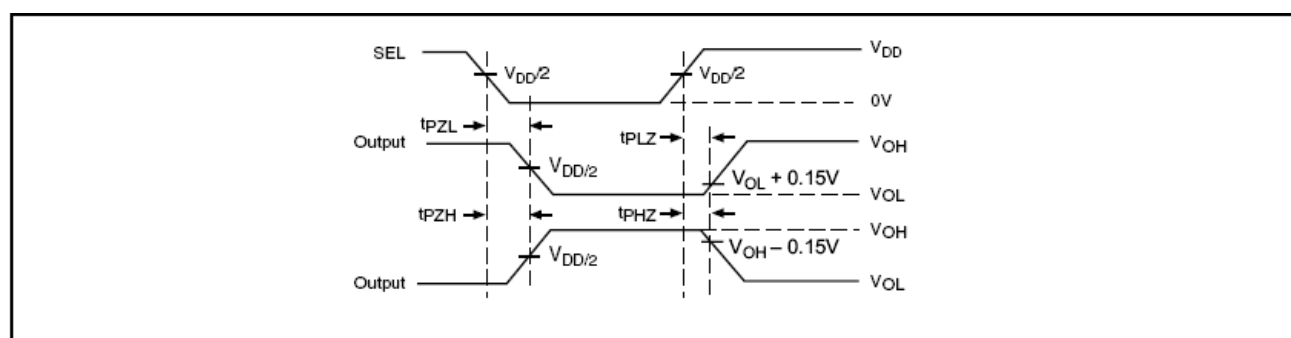
Power Supply Characteristics

Parameters	Description	Test Conditions ⁽¹⁾	Min.	Typ. ⁽²⁾	Max.	Units
I_{CC}	Quiescent Power Supply Current	$V_{DD} = \text{Max.}, V_{IN} = V_{DD} \text{ or } V_{SS}$		200		μA

Notes:

1. For Max. or Min. conditions, use appropriate value specified under Electrical Characteristics for the applicable device type.
2. Typical values are at $T_A = 25^\circ\text{C}$ ambient and maximum loading.
you are really be lost weight.

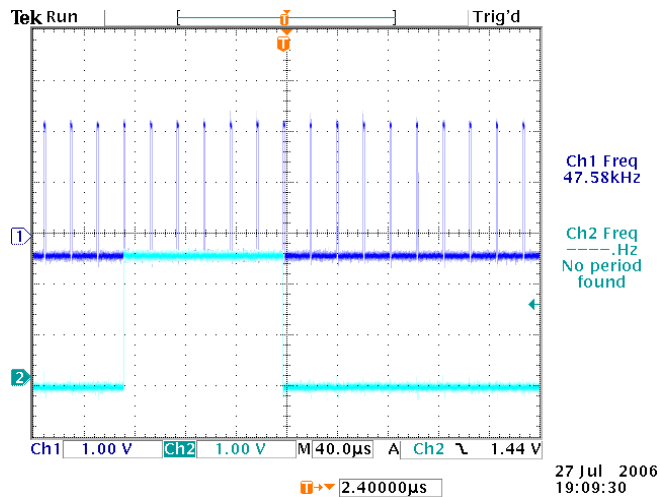
Switching Waveforms



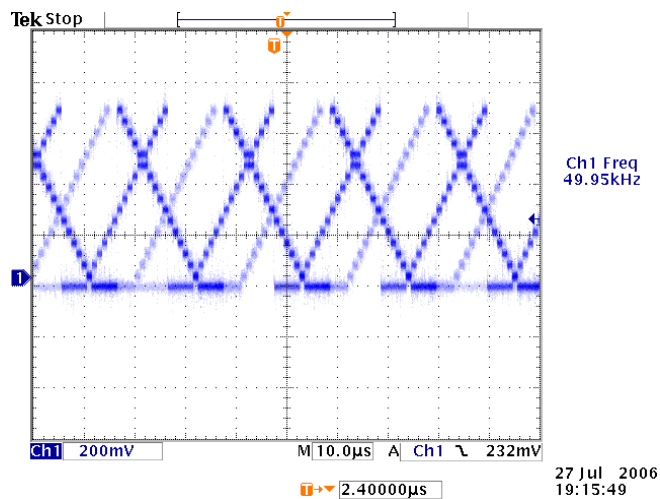
Chapter8 Waveforms

PC MODE(1366X768 60HZ)

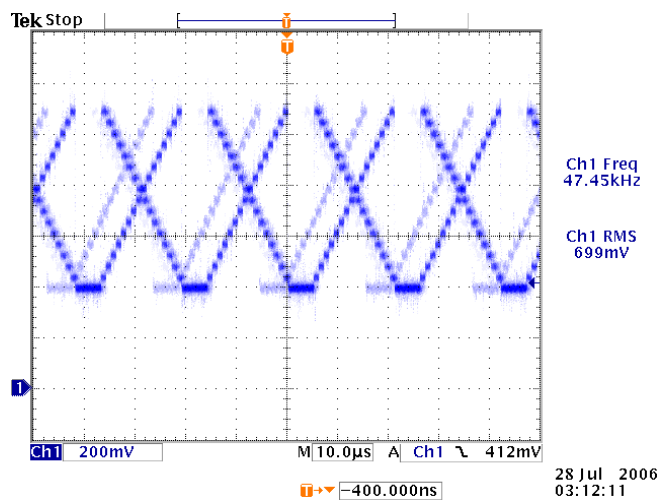
CH1 H-sync (R209); CH2 V-sync (R213)



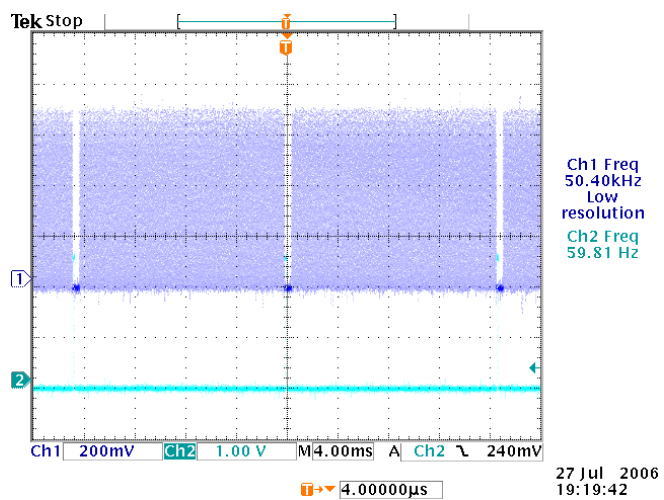
CH1 GREEN (R195)



CH1 GP (C89)

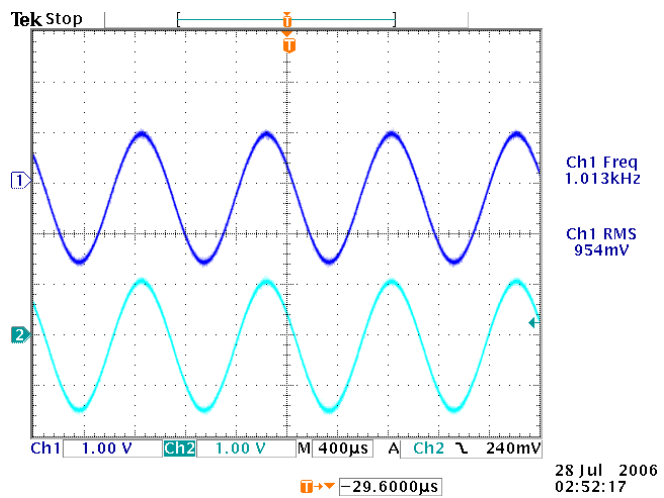


CH1 GREEN # (R195); CH2 VGA VSYNC (R213)

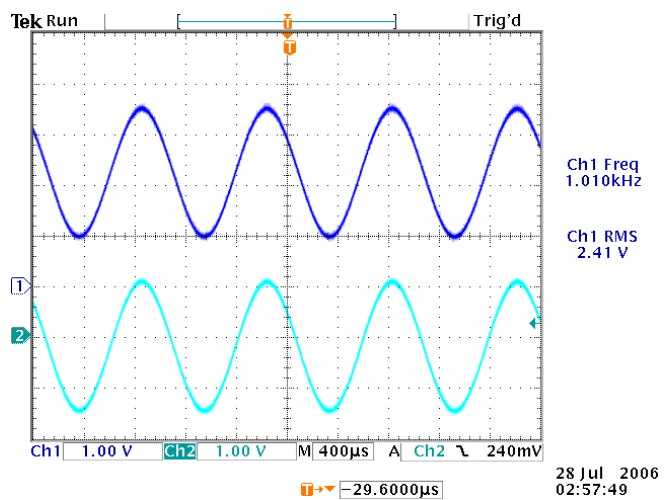


CH1 VGAL_IN (R208); CH2 VGAR_IN (R207)

[Audio]

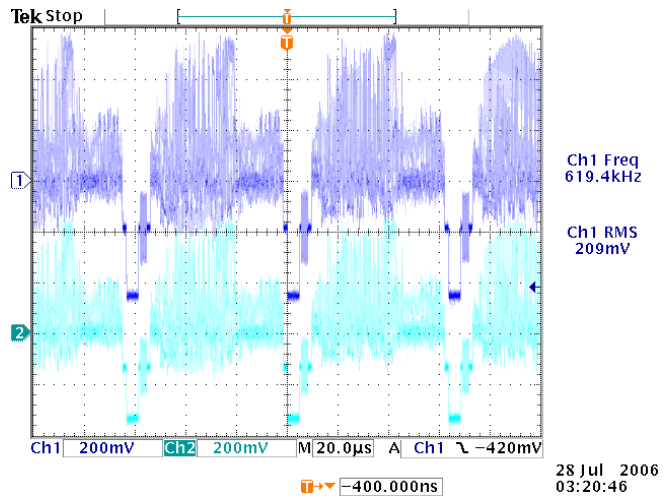


CH1 VGAL_IN (CE56+) ; VGAL_IN (CE56-)

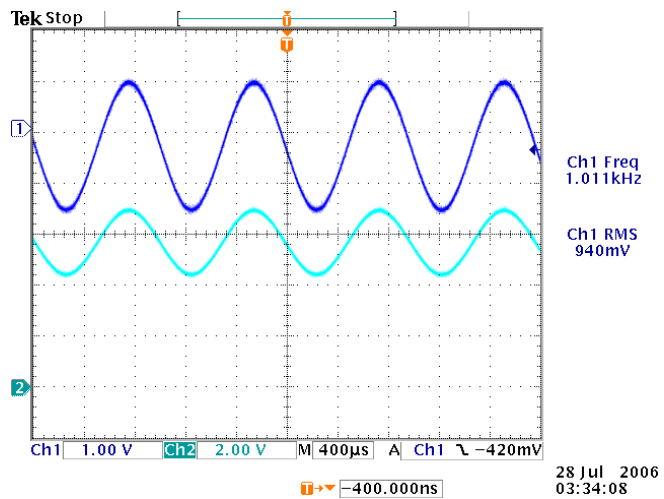


AV&TV MODE (AV1/AV2/TV) VIDEO

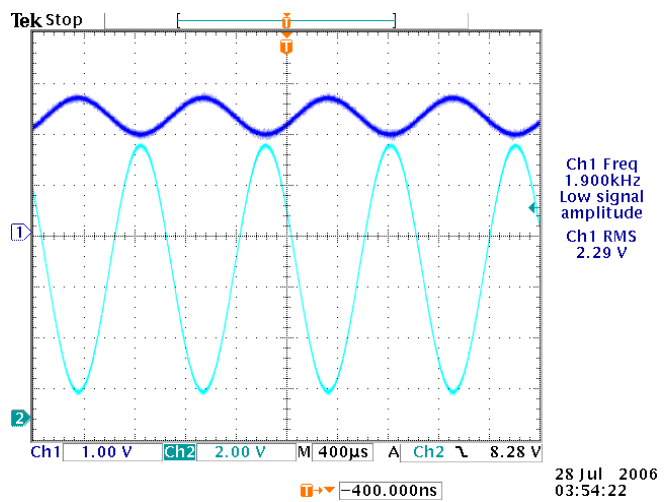
CH1 CVBS2 (R146); CH2 AV2CVBS (C52)



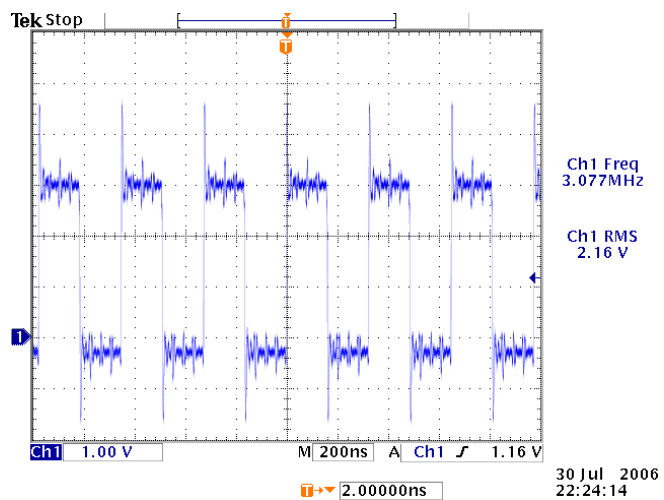
CH1 AV2L (CE46-); CH2 AV2L (U27 PIN15)



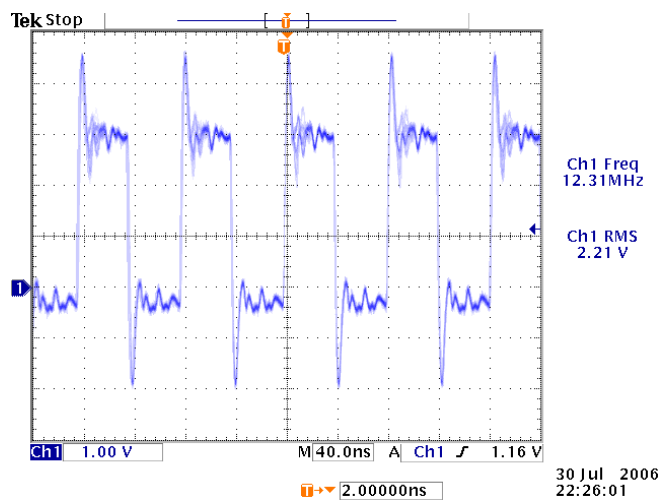
CH1 AUSPL (R335);CH2 OUT2+5(J6 PIN4)



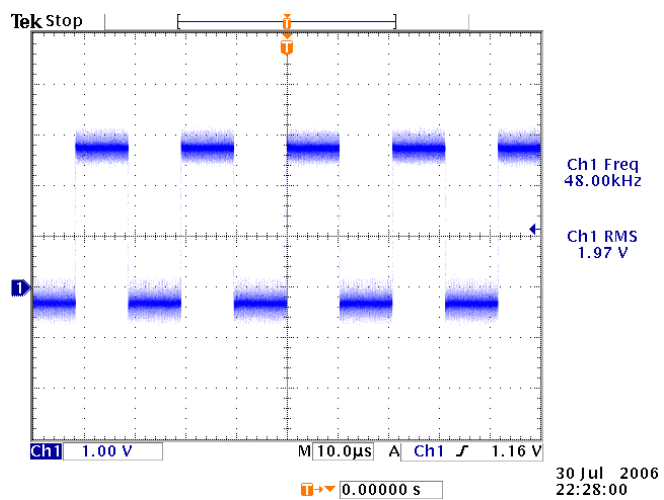
CH1 DACBCLK (U28 PIN4);



CH1 DACMCLK (U28 PIN5);

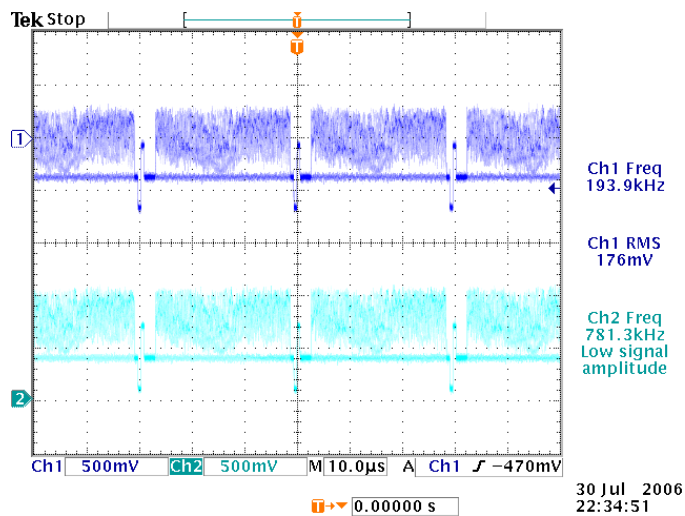


CH1 DACLRCK (U28 PIN7)

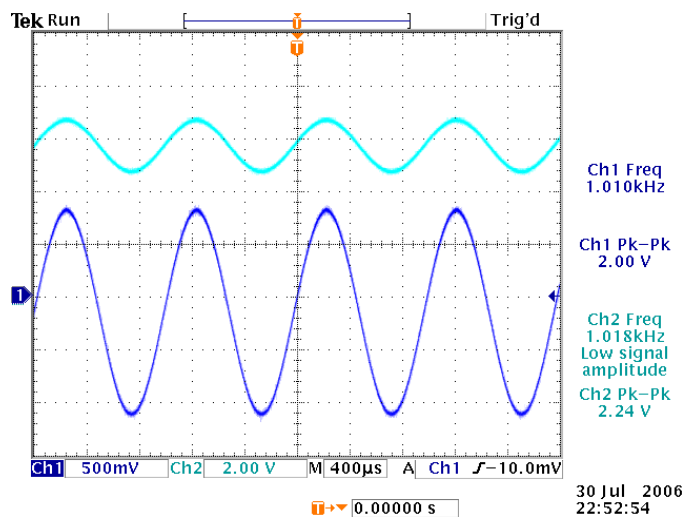


COMPONENT MODE (COMPONENT 1/2)

CH1 Y1_IN (R180); CH2 Y1P (C77)

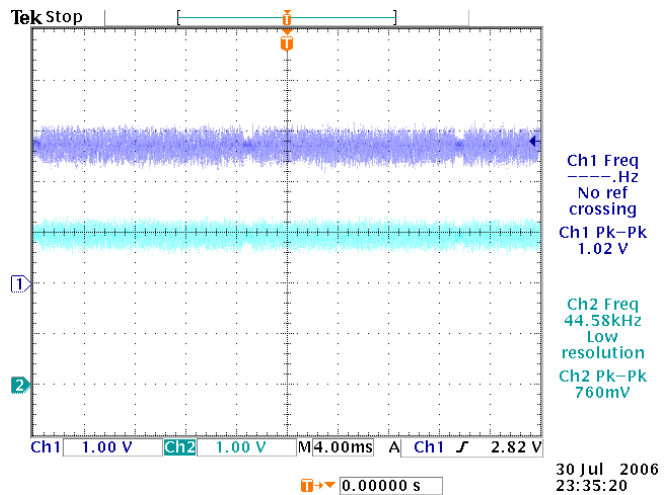


CH1CR1_IN (R190) CH2 PR1P (U27 PIN11)

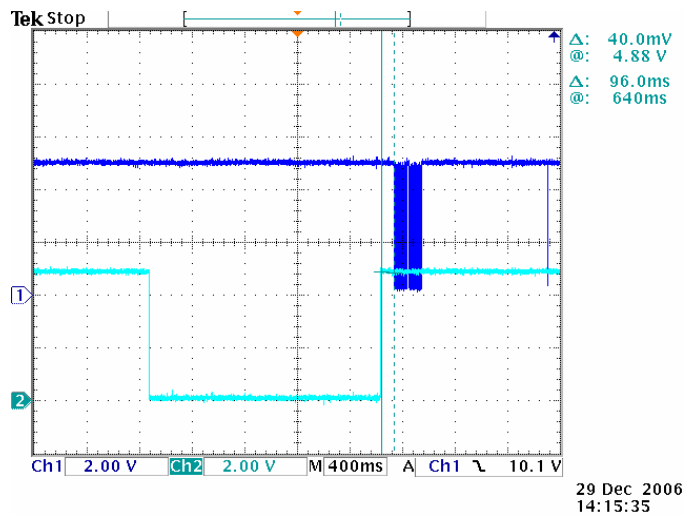


HDMI 1&2

CH1 RX0_2 (P6 PIN 1); CH2 DATA2+ (U31 PIN3)

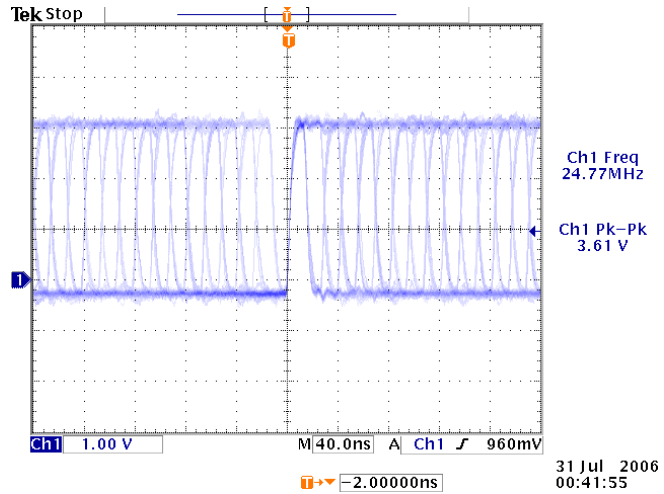


CH1 HDMIDDCSCL_0(R235) ; CH2 HDMICAB0 (Q8 PIN3)

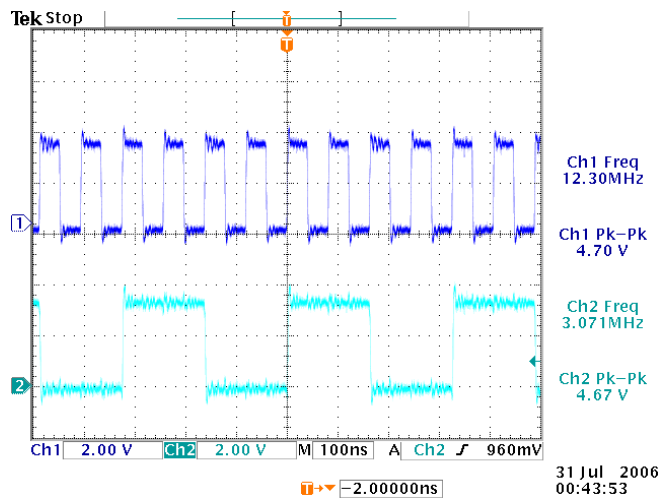


DTV HD

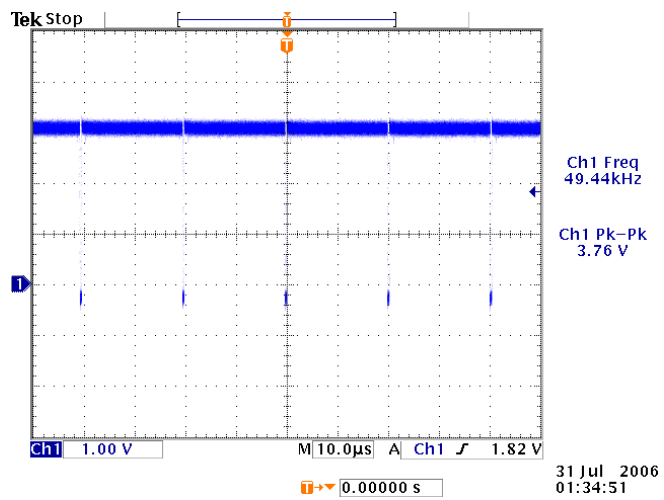
CH1 VOB0 (RP35)



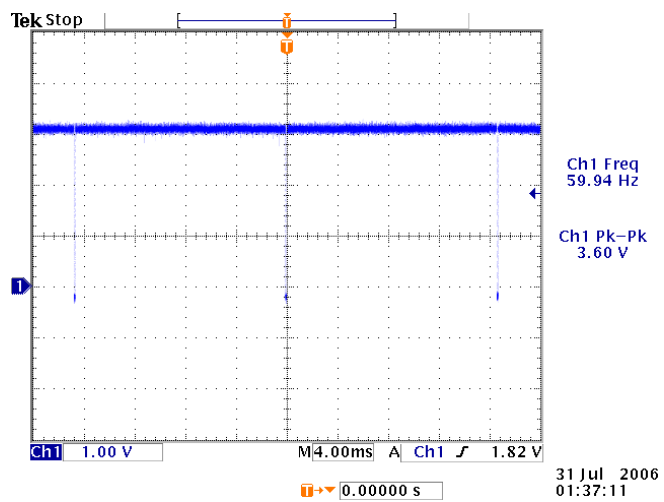
CH1 AO1MCLK (DU9 PIN J1) CH2 AO1BCK (DU9 PIN J2)



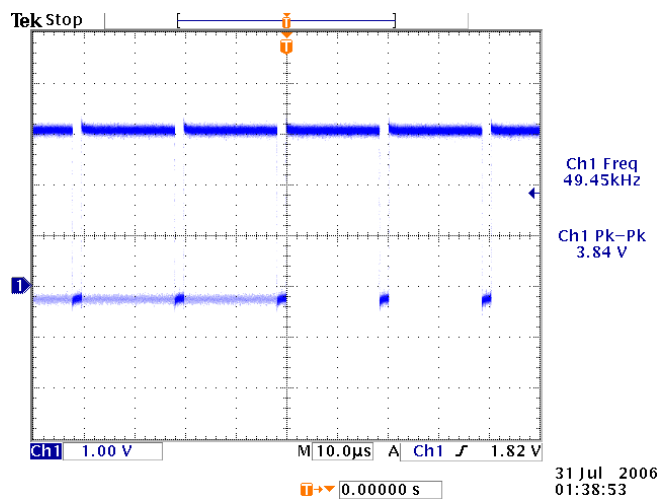
CH1 VOHSYNC (DU9 PIN V4)



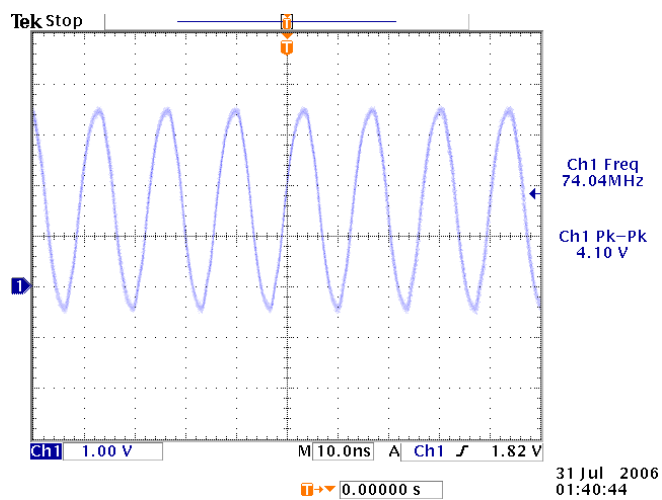
CH1 VOVSYNC (DU9 PIN W1)



CH1 VODE (DU9 PIN W2)

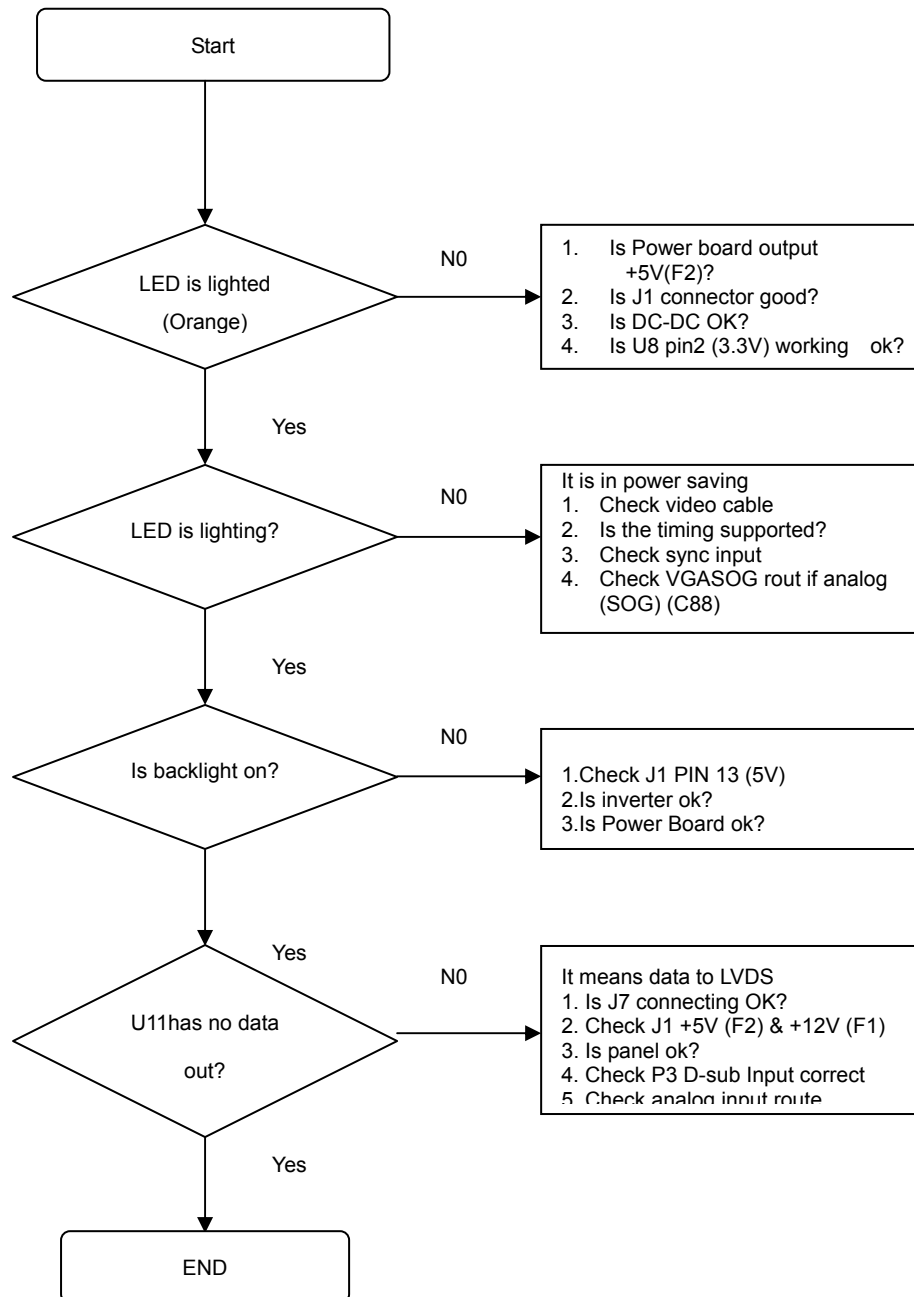


CH1 VOPCLK (DU9 PIN V3)

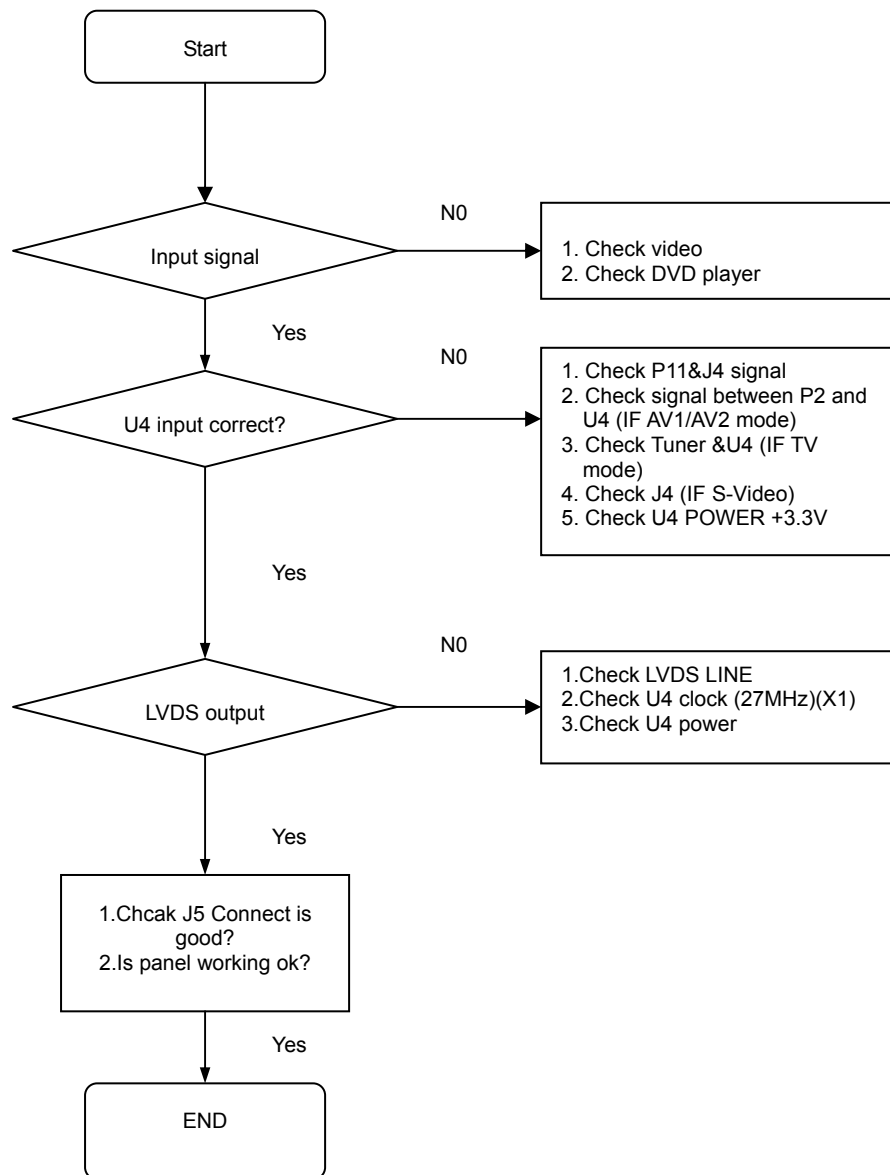


Chapter 9 Trouble solvents

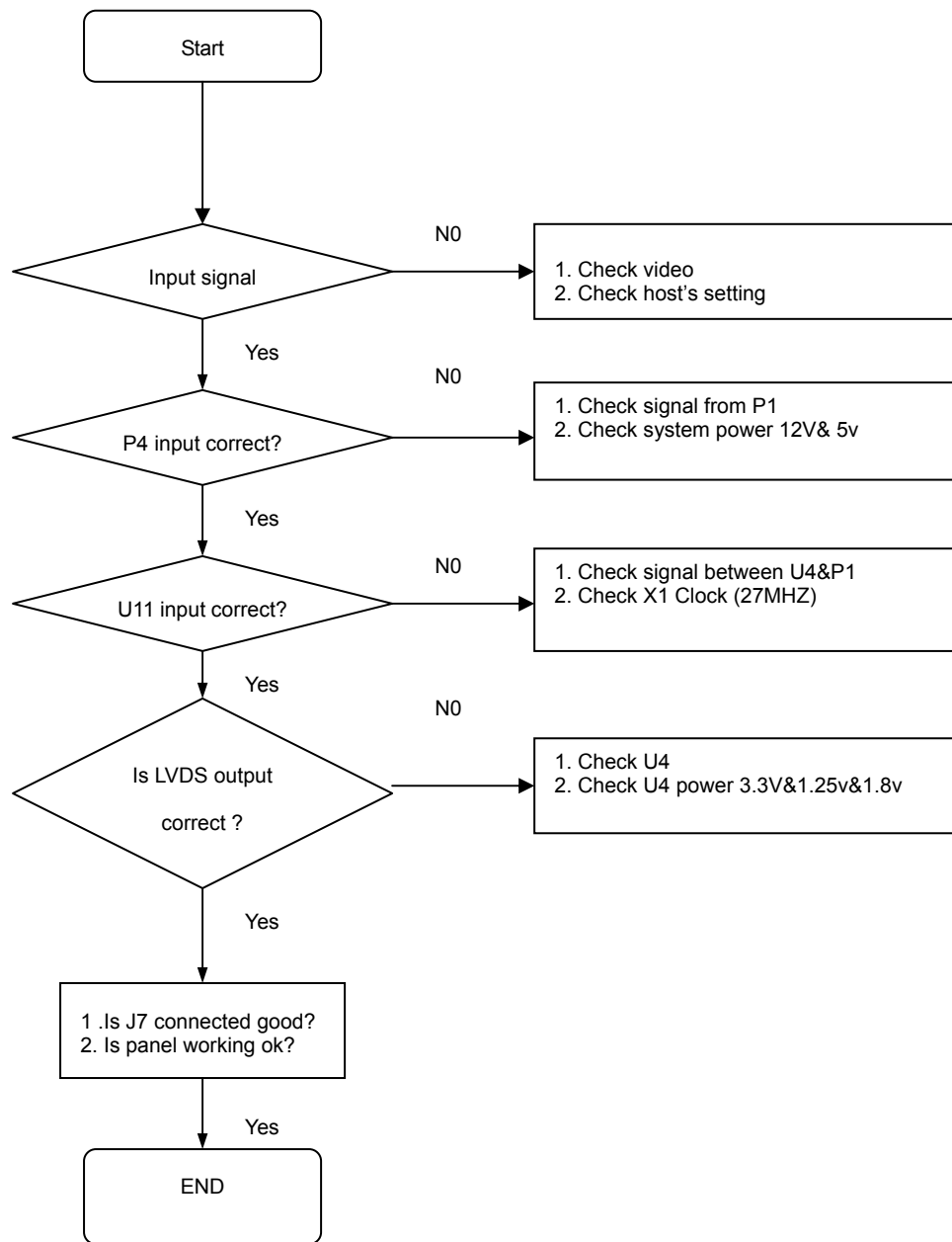
MONITOR DISPLAY NOTHING (PC MODE)



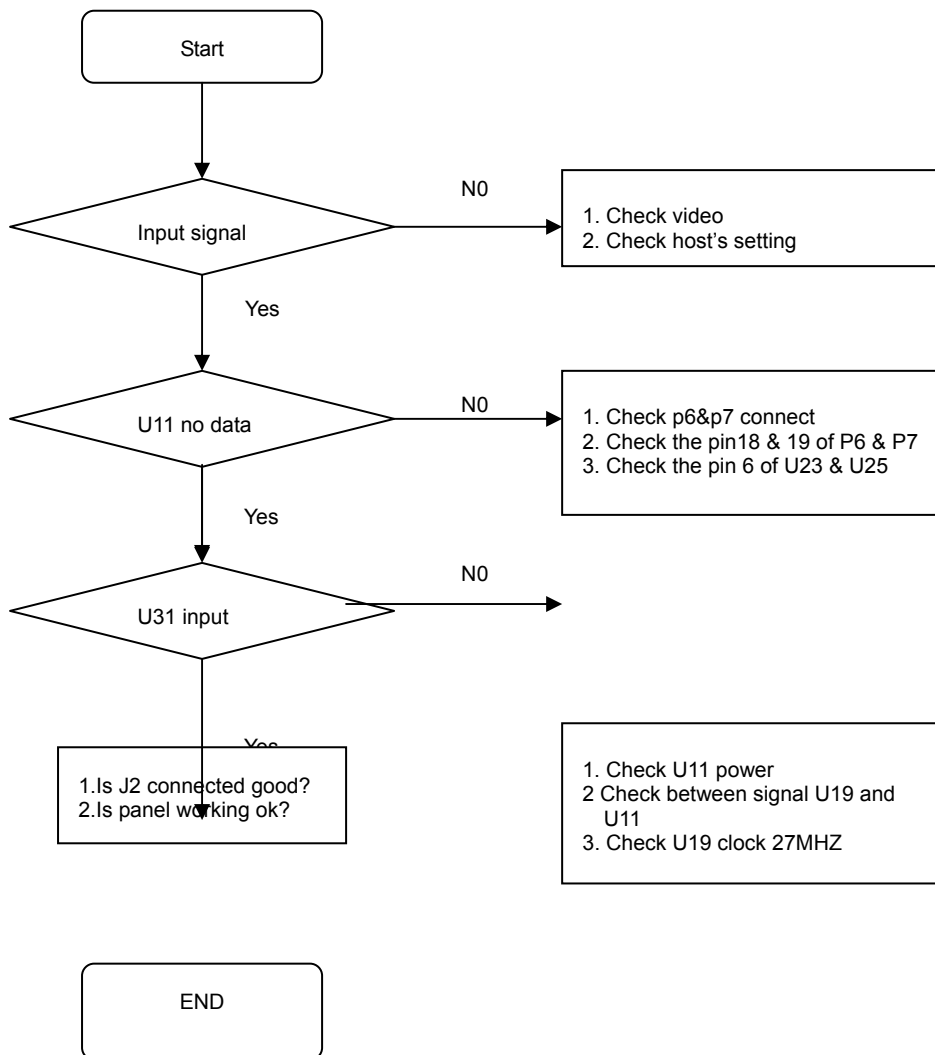
(TV, COMPOSITE VIDEO1, 2, S-VIDEO) IS NOT DISPLAY CORRECTLY



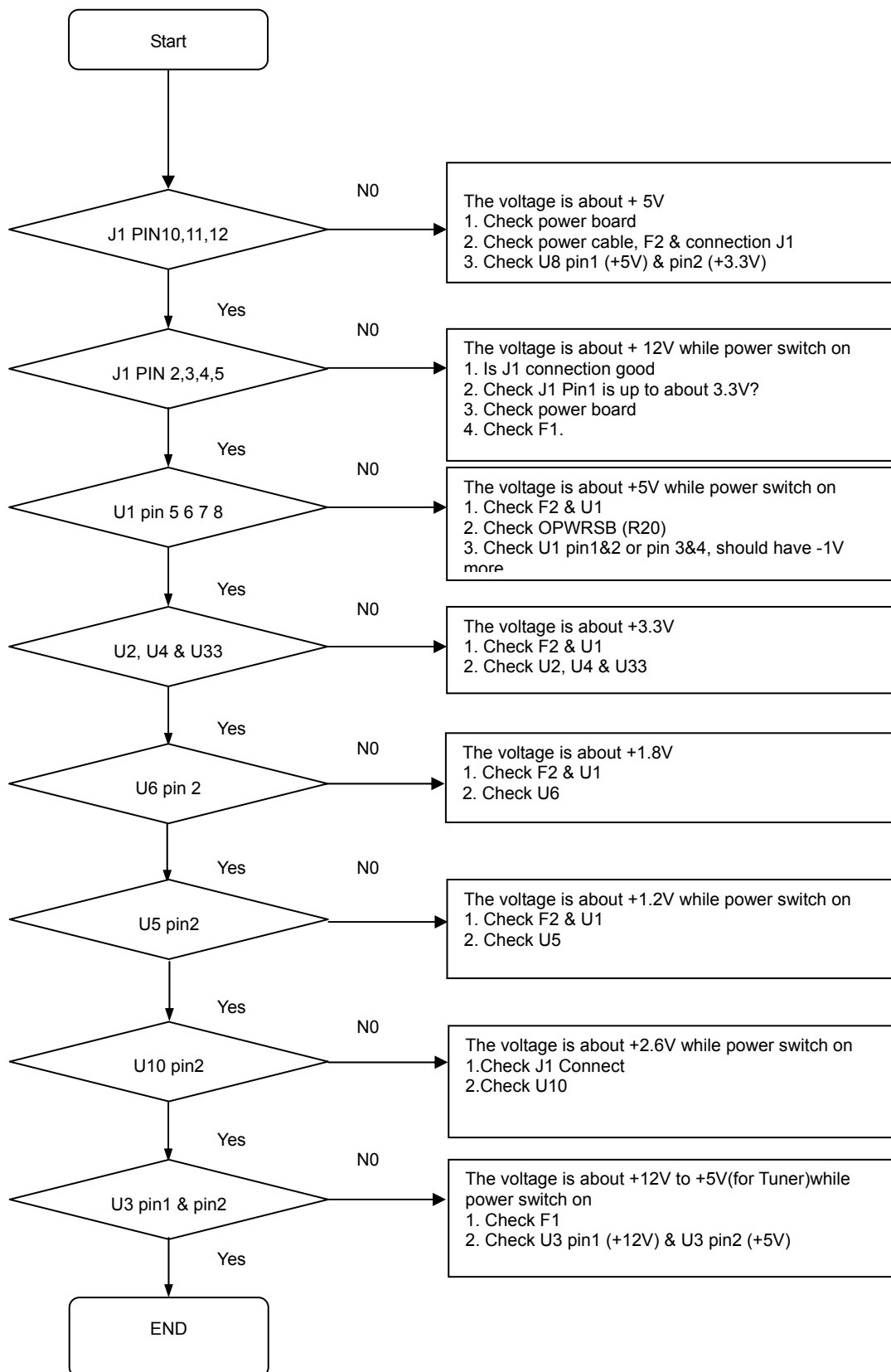
(COMPONENT1, 2) IS NOT DISPLAY CORRECTLY



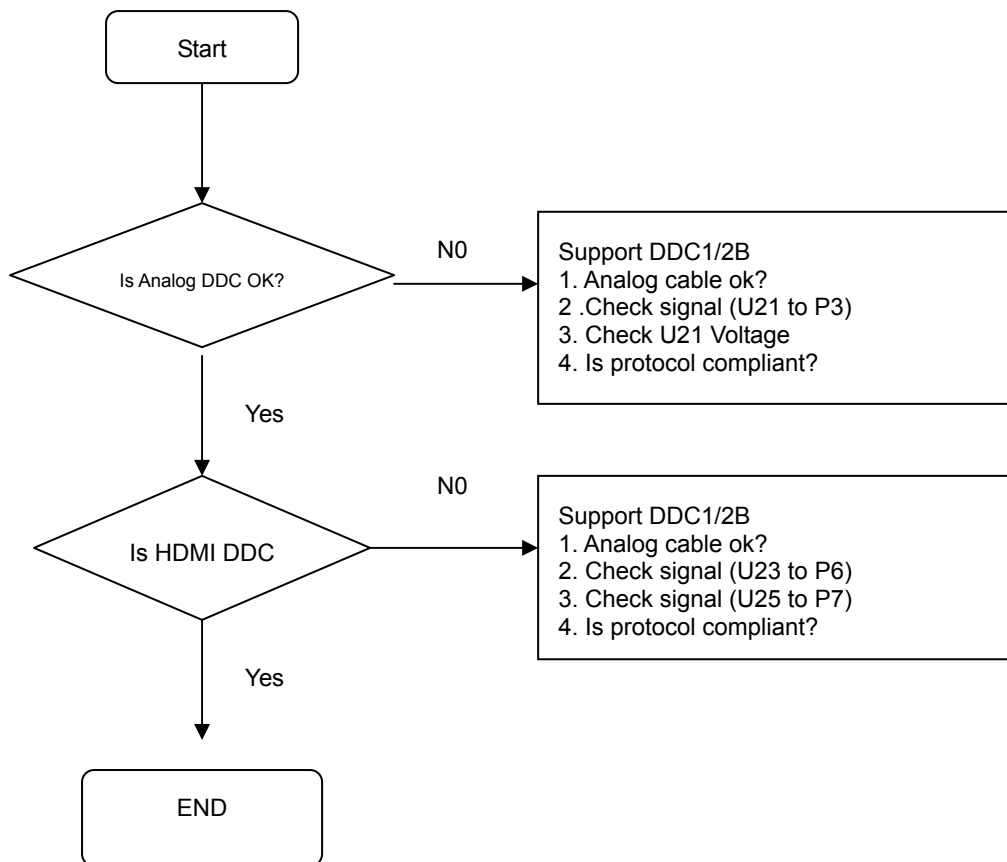
(HDMI) IS NOT DISPLAY CORRECTLY



TROUBLE OF DC-DC CONVERTER

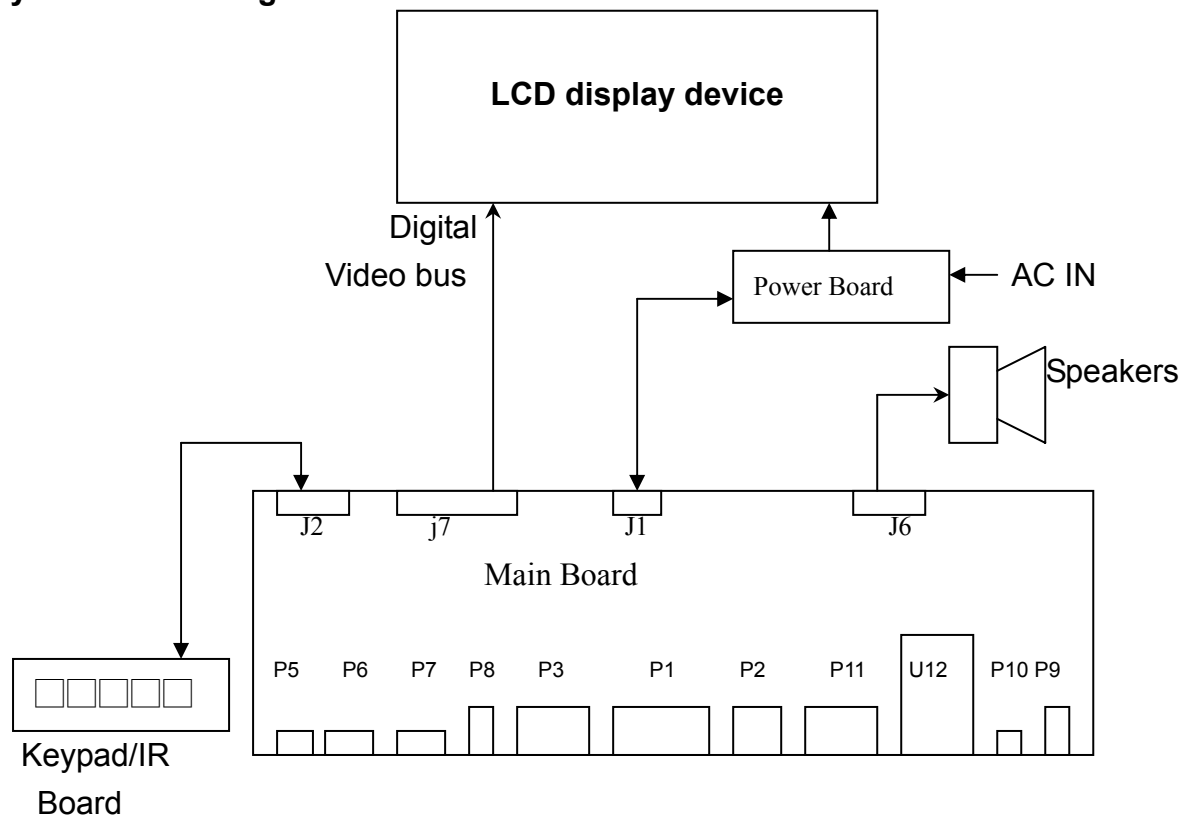


TROUBLE OF EDID READING



Chapter 10 System Block Diagram

System Block Diagram



Our LCD TV system works at the AC power supplying 100V~240V AC +/- 10% @ 50/60 HZ. The Main Board is supported power by the Power Board, which converts the AC source to the DC 5V & 12V & 24V source. The 5V is the system stand-by energy, and the 12V works when we start our system. Indicating LED back light shows the state of our system by its light colors. "Orange" means stand-by, or "White" means working. The 24V supports energy for the inverter, which keeps the LCD back light module stable.

Our LCD TV system, VX37L HDTV 10A, supports different kinds of multi-media formats. They are 1x RF (ATSC/QAM/NTSC), Composite Video / S-Video, Analog RGB, Component YPbPr, HDMI1.1 with HDCP and stereo audio outputs. As shown in the figure "main board block diagram", MT5372 processes video signals and audio signals and WM8776 processes audio signals. MT5372 is also a LVDS generator. The processed video signals are transmitted to panel terminal as LVDS format.

The analog video signals (composite / S-Video, Analog RGB, and YPbPr) are transmitted to MT5372 directly. Their stereo audio signals are transmitted to WM8776, some of these audio signals might pass a switch (U27).

The RF signals include analog and digital TV signals. Two kinds of signals are processed by two kinds of ways. We introduce the processing way of analog signals, then digitals is similar they. First of all, analog signals are processed by MT5372. The processed signals are divided into two parts, video and audio. Video signals are converted as LVDS and transmitted to the panel terminal. WM8776 processes the processing audio signals, and transmits these signals to audio amplifier. Digital signals are processed by MT5112, a demodulator, firstly. After demodulating, they are processed as the same way as analog signals.

The two ports of HDMI signals pass a HDMI signal switch (PI3HDMI412). MT5372 processes HDMI signals directly, then transform video signal to LVDS and audio signal to I2S. LVDS are transmitted to LCD device, and I2S signals to U27 (CD4052). The passing signals are processed as other audio signals.

Main broad block diagram shows the routes of these signals in our system.



Chapter 11 Spare Parts List

PART NO	DESCRIPTION	LOC	QTY	REMARK
0185-1302-0073	FUSE 125V/3A SMD (R451003) LF	F1, F2	2	
0320-4000-0142	POWER CORD 110V UL/CSA 1800mm BLK N.M. (VINC)		1	
0320-4000-0142	POWER CORD 110V UL/CSA 1800mm BLK N.M. (VINC)		1	
0321-0000-0411	AV CABLE RCA(Y/W/R) 1800mm BLK (VINC)		1	
0321-0000-0411	AV CABLE RCA(Y/W/R) 1800mm BLK (VINC)		1	
0360-1000-0420	POWER INDUCTOR L:10uH 1.44A 5.8x5.2mm SMD LF	L26	1	
0390-6005-2103	SCHOTTKY DIODE 0.5A/40V MBR0540T1G SOD-123 LF	D5	1	
0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF			
0410-5000-5619	TRANSISTOR KN3904S SOT-23 L-F	Q1, Q10, Q11, Q13, Q15, Q16, Q17, Q18, Q19, Q2 , Q21, Q22, Q24, Q26, Q3, Q4, Q5, Q8, Q9	19	
0410-5000-5711	TRANSISTOR PMBS3906 SMD LF			
0410-5000-5719	TRANSISTOR KN3906S SOT-23 L-F	Q12, Q14, Q23, Q25	4	
0420-1005-4601	POWER MOS IRF7316TRPBF SMD 8PIN LF	U1, U32	2	
0420-2005-8635	MOSFET 3.6A 30V AM2343P-T1-PF SOT-23 3PIN LF	QF3	1	
0430-4013-3109	IC TDA8946AJ 17PIN DIP LF	U31	1	
0430-6006-1079	IC LDO AP1084KLA ADJ TO-263-3L LF	U10	1	
0430-6009-1051	IC AMC1117SKF-ADJ SMD 3PIN SOT-223 LF	U2, U33, U4, U7, U8, U9	6	
0430-6011-3204	IC LM7805CT TO-220 3PIN LF			
0430-6011-3210	IC MC7805CTG 3PIN TO-220 LF	U3	1	
0430-6015-6099	IC RESET STL8110GCL438 4.38V SOT-23 3PIN LF	U15	1	
0430-6015-8079	IC DC/DC CONVERTER AP1522WA SOT23-5 5PIN LF	U34	1	
0430-7043-1999	IC DEMODULATOR MT5112BD LQFP 100PIN LF	U13	1	
0430-7043-5092	IC SWITCH PI5C3257QE QSOP 16PIN LF	U24	1	
0430-7043-6999	IC SCALER MT5372AJ-L BGA 588PIN LF	U14	1	
0430-7044-1092	IC SWITCH PI3HDMI412FTZHE TQFN 42PIN LF	U22	1	
0980-0200-2130	MODULE. IR RECEIVER (FM-6038LM-5AN)	UR1	1	
0980-0700-0060	LED BACKLIGHT 18*50 LYSB-4916W/SY-D 800mm		1	
1801-0214-8011	REAR COVER (VX37L HDTV)(ABS) ASS'Y		1	
1801-0524-3010	BASE (VX37L HDTV)(ABS) ASS'Y		1	

PART NO	DESCRIPTION	LOC	QTY	REMARK
1925-1000-3460	EPS FOAM_TL (VX37L HDTV)		1	
1925-1000-3470	EPS FOAM_TR (VX37L HDTV)		1	
1925-1000-3480	EPS FOAM_BL (VX37L HDTV)		1	
1925-1000-3490	EPS FOAM_BR (VX37L HDTV)		1	
1925-1100-0230	PE BAG 320*230*0.04T		2	
1925-1100-0280	PE BAG (180W*290L*0.04t)(PE-LD)(ACC.-1)		1	
1925-1100-2340	PE BAG (VX37L HDTV)		1	
1925-1200-8300	ACCESSORY BOX (VIZIO L37 HDTV)		1	
1925-1200-9040	CARTON TRAY (VX37L HDTV)		1	
1925-1200-9480	CARTON VIZIO VX37L HDTV10A		1	
1925-1300-7080	Brochure VIZIO Series		1	
1925-1300-8120	QUICK START GUIDE VIZIO VX37L HDTV10A		1	
1925-1300-8130	MANUAL VIZIO VX37L HDTV10A		1	
1925-1400-2710	Register CARD/VIZIO L15		1	
1925-1900-0610	CARTON JOINT (TM-32V)		4	
1925-2000-0030	Polishing Cloth VIZIO P42 HDTV10A		1	
1936-1100-8990	B/C LBL VIZIO VX37L HDTV10A		1	
1936-1300-1550	SERIAL NO.LBL byd:sign		1	
1936-1600-1180	TECHNOLOGY LOGO LBL VIZIO VX20L/32/37 HDTV		1	
1947-1200-0310	ACETATE CLOTH TAPE (醋酸布膠帶) 27*75mm		3	
1947-1200-0400	ACETATE CLOTH TAPE (醋酸布膠帶) 20*45mm		14	
1947-1200-1560	FILAMENT TAPE (TIBON 25wide)		0.7	
1947-1200-3680	ACETATE CLOTH TAPE (醋酸布膠帶) 40*80mm		1	
1947-1200-3710	MYLAR 3.5*10*120(VX37L)		1	
1947-1200-3720	MYLAR 3.5*10*60(VX37L)		1	
1947-1200-3760	CLOTH L60*W8*T0.3mm(VX37L)		2	
1947-1200-3770	CLOTH L100*W8*T0.3mm(VX37L)		2	
1947-1200-3780	MYLAR L60*W6*T1.5mm(VX37L)		1	
1947-1900-0160	HEAT PATH (25*14mm , t=1 mm)		1	
3632-0022-0146	CONNECTOR BD ASS'Y VX32L HDTV10A		1	
3637-0022-0156	DISPLAY BD ASS'Y VX37L HDTV10A		1	
3637-0032-0150	MAIN BD ASS'Y VX37L HDTV10A		1	
3642-0022-0189	IR BD ASS'Y GV42L HDTV		1	

Chapter 12 Complete Parts List

9637-8500-3053 LCD TV Monitor 37" VX37L HDTV10A_LPL (ABS, BLK)

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1			3637-0032-0312	PACKING ASS'Y VX37L HDTV10A	1	
2			3637-0032-0331	PANEL ASS'Y VX37L HDTV10A (LPL)(ABS, BLK)	1	

3637-0032-0312 PACKING ASS'Y VX37L HDTV10A

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1			1701-0800-2270	REAR PLATE VIZIO VX37L HDTV10A	1	
2			1925-1000-3840	EPS FOAM TL (VW37L HDTV10A)	1	
3			1925-1000-3850	EPS FOAM TR (VW37L HDTV10A)	1	
4			1925-1000-3860	EPS FOAM BL (VW37L HDTV10A)	1	
5			1925-1000-3870	EPS FOAM BR (VW37L HDTV10A)	1	
6			1925-1100-2340	PE BAG (VX37L HDTV)	1	
7			1925-1200-9480	CARTON VIZIO VX37L HDTV10A	1	
8			1925-1200-9560	CARTON TRAY (VW37L HDTV10A)	1	
9			1925-1900-0610	CARTON JOINT (TM-32V)	4	
10			1936-1100-8990	B/C LBL VIZIO VX37L HDTV10A	1	
11			1936-1300-1550	SERIAL NO.LBL byd:sign	1	
12			1936-1600-1180	TECHNOLOGY LOGO LBL VIZIO VX20L/32/37	1	
13			1947-1200-1560	FILAMENT TAPE (TIBON 25wide)	0.7	
14			3637-0032-0393	ACCESSARY ASS'Y VX37L HDTV10A	1	

3637-0032-0331 PANEL ASS'Y VX37L HDTV10A (LPL)(ABS, BLK)

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1			0211-0370-1861	LCD MODULE 37.0" LC370WX1-SLA1	1	
2			0260-0000-0360	AC INLET+VHR5P 1617#22 290mm 1015#18	1	
3			0335-1006-0870	SPEAKER 10W 6ohm(140*60*62) 550/950mm	1	
4			0460-1004-0330	WH PH4P-PH4P 1061#26 130mm LF	1	
5			0460-1012-0281	WH A2001H02-12P/A2543H00-12P 1007#24	1	
6			0460-1012-0311	WH A2001H02-12P/A2001H02-12P 1061#26	1	
7			0460-1014-0150	WH A2001H02-14P/A2543H00-12P 1007#24	1	
8			0460-3010-0191	WH A1251H02-10P/A1251H02-10P 1571#28	1	
9			0460-3430-1011	WH P240430/FI-X30HL 20276#30 450mm+ 吸波	1	
10			0460-4013-0070	WH A2543H13P-PH13P 1007#24 350mm CORE	1	
11			0500-0507-0250	POWER BD ASS'Y DPS-247AP L-F	1	
12	SS		0500-0504-0320	POWER BD ASS'Y PSW247-310-R LF		
13			0950-0000-0010	License: Dolby-AC3 Two-Channel Dolby Digital	1	
14			0950-0000-0020	License: MPEG-LA Consumer Products	1	
15			0950-0000-0030	License: HDMI	1	
16			0960-0000-0100	SOFTWARE MTK HDCP KEY w/mask CODE	1	
17			0980-0700-0060	LED BACKLIGHT 18*50 LYSB-4916W/SY-D 800mm	1	
18			1701-0524-8020	BASE (VX37L HDTV10A)(ABS,SILVER)	1	
19			1701-1000-0430	BASE FOOT (TM-32V)	6	
20			1701-1500-0690	WIRE SADDLE (CH-14)	3	
21			1701-1500-1660	SPACER SUPPORT (DCB-6.5)	1	
22			1701-1934-8010	Side Jack Cover(ABS)(VX37L HDTV10A-LPL)	1	
23			1712-0100-4590	HEAT SINK FIX MTEAL (TM-30A)	1	
24			1712-0101-0540	WALL MOUNT SUPPORT (VX37L HDTV)	4	
25			1712-0101-1130	PANEL HOLDER-L (VX37L-LPL)	1	
26			1712-0101-1140	PANEL HOLDER-R (VX37L-LPL)	1	
27			1712-0101-1330	MAIN SHIELD(VX37L HDTV10A)	1	
28			1712-0101-1380	CHASSIS FOR (VX37L HDTV10A-LPL)	1	
29			1712-0400-1920	HEAT SINK (VX37L HDTV)	1	
30			1720-0003-0620	MAC. SCREW-MB M3.0*6.0L,Ni	40	
31			1720-1204-0820	MAC. SCREW-MPGW M4.0*8.0L,Ni	1	
32			1720-1504-0820	MAC. SCREW-MPSWF M4.0*8.0L,NI	16	
33			1720-3003-0820	MAC.SCREW-MF M3.0*8.0L,NI	5	
34			1720-7344-0820	MAC. SCREW-MHSW #4-40*8.0L,Ni	2	
35			1721-0003-0820	TAP. SCREW-TB #3.0*8.0L,NI	11	
36			1721-0004-1020	TAP. SCREW-TP #4.0*10.0L,NI	15	
37			1721-0004-1650	TAP. SCREW-TP #4.0*16.0L, BLK-Ni	14	
38			1721-3003-0920	TAP. SCREW-MF M3.0*9.0L, Ni	2	
39			1721-4104-1220	TAP. SCREW-TRF #4.0*12.0L,NI	6	
40			1725-0004-1020	MAC. SCREW-MB M4.0*10.0L,Ni,NYLOK	12	
41			1801-0124-0010	FRONT BEZEL (VX37L HDTV)(ABS) ASS'Y	1	
42			1801-0214-8021	REAR COVER (VX37L-LPL)(ABS) ASS'Y	1	

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
43			1947-1200-0400	ACETATE CLOTH TAPE (醋酸布膠帶) 20*45mm	17	
44			1947-1200-3680	ACETATE CLOTH TAPE (醋酸布膠帶) 40*80mm	1	
45			1947-1200-3760	CLOTH L60*W8*T0.3mm(VX37L)	2	
46			1947-1200-3770	CLOTH L100*W8*T0.3mm(VX37L)	2	
47			1947-1200-3780	MYLAR L60*W6*T1.5mm(VX37L)	1	
48			1947-1700-0050	SHIELDING AL. TAPE (50.0*40.0)	3	
49			1947-1700-0130	SHIELDING AL.TAPE (70.0*50.0)	2	
50			1947-1800-0030	GASKET BLOCK (10W*17H*60L)	10	
51			1947-1800-0370	GASKET BLOCK (5.5H*10.0W*30.0Lmm)	1	
52			1947-1800-0490	GASKET BLOCK (12L*10W*2.5Hmm) HOLE 6 φ	1	
53			1947-1900-0160	HEAT PATH (25*14mm , t=1 mm)	1	
54			3632-0022-0146	CONNECTOR BD ASS'Y VX32L HDTV	1	
55			3637-0022-0156	DISPLAY BD ASS'Y VX37L HDTV10A	1	
56			3637-0032-0150	MAIN BD ASS'Y VX37L HDTV10A (HDCP)	1	
57			3642-0022-0189	IR BD ASS'Y GV42L HDTV	1	

3632-0022-0146 CONNECTOR BD ASS'Y VX32L HDTV

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1			0171-3871-0172	PCB CONN. BD FR4 80*22*1.6t D (VX32L	1	
2	JC1		0451-2000-1266	WAFER 2.0mm 12P 90' DIP KINK (M242612R) L-F	1	
3	JC2		0300-3041-0090	S-VIDEO 4PIN 90' (2MJ-0602-005) L-F	1	
4	JC3		0302-9030-0114	RCA JACK 1ROW 3I/O (Y-W-R) L-F	1	
5	LC1		0370-0001-4773	CHIP BEAD CORE 80ohm (MCB1608H800GA) LF	1	

3637-0022-0156 DISPLAY BD ASS'Y VX37L HDTV10A

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1			363700220156M	DISPLAY BD ASS'Y VX37L HDTV10A MI	1	
2			363700220156S	DISPLAY BD ASS'Y VX37L HDTV10A SMD	1	

3637-0032-0150 MAIN BD ASS'Y VX37L HDTV10A (HDCP)

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1			363700320150A	MAIN BD ASS'Y VX37L HDTV10A AI	1	
2			363700320150M	MAIN BD ASS'Y VX37L HDTV10A MI	1	
3			363700320150S	MAIN BD ASS'Y VX37L HDTV10A SMD	1	

3637-0032-0393 ACCESSARY ASS'Y VX37L HDTV10A

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1			0320-4000-0142	POWER CORD 110V UL/CSA 1800mm BLK N.M.	1	
2			0321-0000-0411	AV CABLE RCA(Y/W/R) 1800mm BLK (VINC)	1	
3			0602-3000-0020	Battery Zn-Carbon 1.5V AA	2	
4			0980-0304-9150	Remote control 66700ABA2-038-R LF	1	
5			1925-1100-0230	PE BAG 320*230*0.04T	2	
6			1925-1100-0280	PE BAG (180W*290L*0.04t)(PE-LD)(ACC.-1)	1	
7			1925-1200-8300	ACCESSORY BOX (VIZIO L37 HDTV)	1	
8			1925-1300-7080	Brochure VIZIO Series	1	
9			1925-1300-8120	QUICK START GUIDE VIZIO VX37L HDTV10A	1	
10			1925-1300-8130	MANUAL VIZIO VX37L HDTV10A	1	
11			1925-1400-2710	Register CARD/VIZIO L15	1	
12			1925-1400-3410	Warranty & Repair Sheet VIZIO	1	
13			1925-2000-0030	Polishing Cloth VIZIO P42 HDTV10A	1	

3642-0022-0189 IR BD ASS'Y GV42L HDTV

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1			364200220189M	IR BD ASS'Y GV42L HDTV MI	1	
2			364200220189S	IR BD ASS'Y GV42L HDTV SMD	1	

363700220156M DISPLAY BD ASS'Y VX37L HDTV10A MI

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1		CON1	0451-1250-1066	WAFER 1.25mm 10P 90' DIP KINK (M240110R) L-F	1	
2	SS		0451-1250-1063	WAFER 1.25mm 10P 90' KINK (A1251WR0-10P)		
3		CON3	0451-1250-0366	WAFER 1.25mm 3P 90' DIP KINK (M24013R) L-F	1	
4	SS		0451-1250-0363	WAFER 1.25mm 3P 90' KINK (A1251WR0-3P) L-F		
5		J2	0451-2000-0466	WAFER 2.0mm 4P 90' DIP KINK (M24264R) L-F	1	
6	SS		0451-2003-0463	WAFER 2.00mm 4P 90' KINK (A2001WR2-4P) L-F		
7		SW1	0220-7020-0130	SW TACT 6*6mm 180' 160g SFKHHAM2525 L-F	1	
8		SW2	0220-7020-0130	SW TACT 6*6mm 180' 160g SFKHHAM2525 L-F	1	
9		SW3	0220-7020-0130	SW TACT 6*6mm 180' 160g SFKHHAM2525 L-F	1	
10		SW4	0220-7020-0130	SW TACT 6*6mm 180' 160g SFKHHAM2525 L-F	1	
11		SW5	0220-7020-0130	SW TACT 6*6mm 180' 160g SFKHHAM2525 L-F	1	
12		SW6	0220-7020-0130	SW TACT 6*6mm 180' 160g SFKHHAM2525 L-F	1	
13		SW7	0220-7020-0130	SW TACT 6*6mm 180' 160g SFKHHAM2525 L-F	1	

363700220156S DISPLAY BD ASS'Y VX37L HDTV10A SMD

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1			0174-1770-1842	PCB DISPLAY BD 150*20(VX37L HDTV10A)(1:10)	1	
2		CD1	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
3	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
4		CD2	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
5	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
6		CD3	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
7	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
8		CD4	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
9	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
10		RD1	0130-0000-1859	RES. CF 0.0ohm 1/8W J 1206	1	
11		RD10	0130-0000-1859	RES. CF 0.0ohm 1/8W J 1206	1	
12		RD11	0130-2001-1654	RES CF 2Kohm 1/16W J 0402	1	
13		RD12	0130-2001-1654	RES CF 2Kohm 1/16W J 0402	1	
14		RD13	0130-2001-1654	RES CF 2Kohm 1/16W J 0402	1	
15		RD14	0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
16		RD15	0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
17		RD16	0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
18		RD17	0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
19		RD2	0130-2401-1654	RES. CF 2.4 Kohm 1/16W J 0402	1	
20		RD3	0130-2001-1654	RES CF 2Kohm 1/16W J 0402	1	
21		RD4	0130-2001-1654	RES CF 2Kohm 1/16W J 0402	1	
22		RD5	0130-2001-1654	RES CF 2Kohm 1/16W J 0402	1	
23		RD6	0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
24		RD7	0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
25		RD8	0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	

363700320150A MAIN BD ASS'Y VX37L HDTV10A AI

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1		CE1	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
2		CE10	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
3		CE11	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
4		CE12	0103-6471-1312	E/C HF 470uF 25V 105°C (10*16mm)	1	
5		CE13	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
6		CE14	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
7		CE15	0103-6471-1312	E/C HF 470uF 25V 105°C (10*16mm)	1	
8		CE16	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
9		CE17	0103-1101-1211	E/C VZ 100uF 16V 105°C F-T (5*11mm)	1	
10		CE18	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
11		CE19	0103-1101-1211	E/C VZ 100uF 16V 105°C F-T (5*11mm)	1	
12		CE2	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
13		CE20	0103-1101-1211	E/C VZ 100uF 16V 105°C F-T (5*11mm)	1	
14		CE21	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
15		CE22	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
16		CE23	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
17		CE24	0103-1101-1211	E/C VZ 100uF 16V 105°C F-T (5*11mm)	1	
18		CE25	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
19		CE26	0103-1101-1211	E/C VZ 100uF 16V 105°C F-T (5*11mm)	1	
20		CE27	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
21		CE3	0103-1220-1511	E/C VT 22uF 50V 105°C F-T (5*11mm)	1	
22		CE31	0103-1101-1211	E/C VZ 100uF 16V 105°C F-T (5*11mm)	1	
23		CE32	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
24		CE33	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
25		CE34	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
26		CE35	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
27		CE36	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
28		CE37	0103-1471-1211	E/C VZ 470uF 16V 105°C F-T (8*11.5mm)	1	
29		CE38	0103-1101-1211	E/C VZ 100uF 16V 105°C F-T (5*11mm)	1	
30		CE4	0103-1220-1511	E/C VT 22uF 50V 105°C F-T (5*11mm)	1	
31		CE40	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
32		CE41	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
33		CE42	0103-1101-1211	E/C VZ 100uF 16V 105°C F-T (5*11mm)	1	
34		CE43	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
35		CE44	0103-1101-1211	E/C VZ 100uF 16V 105°C F-T (5*11mm)	1	
36		CE45	0103-1220-1511	E/C VT 22uF 50V 105°C F-T (5*11mm)	1	
37		CE46	0103-1220-1511	E/C VT 22uF 50V 105°C F-T (5*11mm)	1	
38		CE47	0103-1220-1511	E/C VT 22uF 50V 105°C F-T (5*11mm)	1	
39		CE48	0103-1220-1511	E/C VT 22uF 50V 105°C F-T (5*11mm)	1	
40		CE49	0103-1220-1511	E/C VT 22uF 50V 105°C F-T (5*11mm)	1	
41		CE5	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
42		CE50	0103-1471-1211	E/C VZ 470uF 16V 105°C F-T (8*11.5mm)	1	

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
43		CE51	0103-1220-1511	E/C VT 22uF 50V 105°C F-T (5*11mm)	1	
44		CE52	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
45		CE53	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
46		CE54	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
47		CE55	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
48		CE56	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
49		CE57	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
50		CE58	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
51		CE59	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
52		CE6	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
53		CE60	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
54		CE62	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
55		CE64	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
56		CE65	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
57		CE66	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
58		CE67	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
59		CE7	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
60		CE72	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
61		CE75	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
62		CE78	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
63		CE79	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
64		CE8	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
65		CE81	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
66		CE82	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
67		CE83	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
68		CE84	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
69		CE87	0103-6102-1212	E/C HF 1000uF 16V 105°C F (10*20)	1	
70	SS		0103-6102-1210	E/C HF 1000uF 16V 105°C N-F (10*20)		
71		CE88	0103-1220-1511	E/C VT 22uF 50V 105°C F-T (5*11mm)	1	
72		CE89	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
73		CE9	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
74		CE90	0103-1220-1511	E/C VT 22uF 50V 105°C F-T (5*11mm)	1	
75		CE91	0103-1221-1311	E/C VT 220uF 25V 105°C F-T (8*11.5mm)	1	
76		C159	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
77		C160	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
78		C161	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	
79		C33	0103-1101-1211	E/C VZ 100uF 16V 105°C F-T (5*11mm)	1	
80		C34	0103-1101-1211	E/C VZ 100uF 16V 105°C F-T (5*11mm)	1	
81		C38	0103-1100-1511	E/C VT 10uF 50V 105°C F-T (5*11mm)	1	

363700320150M MAIN BD ASS'Y VX37L HDTV10A MI

ITEM	M/S	LOCATION	PART NO.	DESCRIPTION	QTY	REMARK
1		J1	0451-2000-1366	WAFER 2.0mm 13P 90' DIP KINK (M242613R) L-F	1	
2	SS		0451-2003-1363	WAFER 2.00mm 13P 90' KINK (A2001WR2-13P)		
3		J2	0451-1250-1066	WAFER 1.25mm 10P 90' DIP KINK (M240110R) L-F	1	
4	SS		0451-1250-1063	WAFER 1.25mm 10P 90' KINK (A1251WR0-10P)		
5		J4	0451-2000-1266	WAFER 2.0mm 12P 90' DIP KINK (M242612R) L-F	1	
6	SS		0451-2003-1263	WAFER 2.00mm 12P 90' KINK (A2001WR2-12P)		
7		J6	0451-2500-0446	WAFER 2.5mm 4P 90' DIP KINK (M241854R) L-F	1	
8	SS		0451-2500-0443	WAFER 2.50mm 4P 90' KINK (A2501WR2-4P) L-F		
9		L11	0361-2022-0030	COIL CHOKE 22UH 2.9A 11*12 DIP	1	
10		L68	0370-0000-1011	FERRITE CORE RH 3.5X6X1.0(W)X2 L-F	1	
11		L8	0361-2022-0030	COIL CHOKE 22UH 2.9A 11*12 DIP	1	
12		P1	0302-9060-0020	RCA JACK 2ROW 6I/O (G-B-R)	1	
13		P10	0300-6400-0031	OPTO CONN. Transmitter (134-0029-399A) L-F	1	
14		P11	0302-9030-0114	RCA JACK 1ROW 3I/O (Y-W-R) L-F	1	
15		P2	0302-9040-0010	RCA JACK 2ROW 4I/O 90' (W-R) L-F	1	
16	SS		0302-9040-0011	RCA JACK 2ROW 4I/O 90' (W-R) (MKC21-4313N)		
17		P3	0300-1205-3151	D-SUB FEMALE 90' 15P 3ROW	1	
18		P4	0302-0350-0012	PHONE JACK 3.5 φ 5P 90' +SHIELD L-F	1	
19		P5	0202-6000-0003	RJ11 6P6C Gray UNDER CONTACT L-F	1	
20		P8	0302-9020-0114	RCA JACK 2ROW 2I/O (W-R) L-F	1	
21		P9	0302-9020-0114	RCA JACK 2ROW 2I/O (W-R) L-F	1	
22		U12	0980-0103-3060	MODULE TUNER DTVS205CH201A L-F	1	
23		U3	0430-6011-3210	IC MC7805CTG 3PIN TO-220 LF	1	
24	SS		0430-6011-3204	IC LM7805CT TO-220 3PIN LF		
25		U31	0430-4013-3109	IC TDA8946AJ 17PIN DIP LF	1	
26		Y1	0280-2500-0012	X'TAL 25MHZ 49/US 30PPM 20PF LF	1	

363700320150S MAIN BD ASS'Y VX37L HDTV10A SMD

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
1			363700320150B	MAIN BD ASS'Y VX37L HDTV10A SMD BOT	1	
2			363700320150T	MAIN BD ASS'Y VX37L HDTV10A SMD TOP	1	

364200220189S IR BD ASS'Y GV42L HDTV MI

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
1		JR1	0451-2000-0466	WAFER 2.0mm 4P 90' DIP KINK (M24264R) L-F	1	
2	SS		0451-2003-0463	WAFER 2.00mm 4P 90' KINK (A2001WR2-4P) L-F		
3		UR1	0980-0200-2130	MODULE. IR RECEIVER (FM-6038LM-5AN)	1	
4		UR1S	1701-1500-0360	IR HOLDER (TM-15A)	1	
5			0171-1671-0501	PCB IR BD FR4 66.5*12*1.6t D (GV42L	1	
6		CR2	0111-3106-1614	C/M Multi. 10uF 16V X7R K 1206	1	
7	SS		0111-3106-1114	C/M MULTI 10uF 10V X7R K 1206		
8	SS		0112-3106-1614	C/M MULTI 10uF 16V X7R 1206		
9	SS		0115-7106-1614	C/M MULTI 10uF 16V X7R 1206		
10		CR3	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
11	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
12		LR1	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
13		RR1	0130-4709-1654	RES. CF 47ohm 1/16W J 0402	1	
14		RR2	0130-4709-1654	RES. CF 47ohm 1/16W J 0402	1	
15		ZDR1	0400-0881-5012	ZENER 8.85~9.23V UDZSTE-179.1B 1/5W	1	

363700320150B MAIN BD ASS'Y VX37L HDTV10A SMD BOT

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
1		CB100	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
2	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
3		CB101	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
4	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
5		CB102	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
6	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
7		CB103	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
8	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
9		CB104	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
10	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
11		CB105	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
12	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
13		CB106	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
14	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
15		CB107	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
16	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
17		CB108	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
18	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
19		CB109	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
20	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
21		CB111	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
22	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
23		CB112	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
24	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
25		CB113	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
26	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
27		CB114	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
28	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
29		CB115	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
30	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
31		CB116	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
32	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
33		CB117	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
34	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
35		CB118	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
36	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
37		CB119	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
38	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
39		CB12	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
40	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
41		CB126	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
42	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
43		CB13	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
44	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
45		CB130	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
46	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
47		CB136	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
48	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
49		CB137	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
50	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
51		CB138	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
52	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
53		CB139	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
54	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
55		CB14	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
56	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
57		CB140	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
58	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
59		CB141	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
60	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
61		CB142	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
62	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
63		CB144	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
64	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
65		CB145	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
66	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
67		CB146	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
68	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
69		CB147	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
70	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
71		CB148	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
72	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
73		CB149	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
74	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
75		CB150	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
76	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
77		CB151	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
78	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
79		CB152	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
80	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
81		CB153	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
82	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
83		CB154	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
84	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
85		CB156	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
86	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
87		CB157	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
88	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
89		CB158	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
90	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
91		CB159	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
92	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
93		CB160	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
94	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
95		CB161	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
96	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
97		CB162	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
98	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
99		CB163	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
100	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
101		CB164	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
102	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
103		CB165	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
104	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
105		CB166	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
106	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
107		CB167	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
108	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
109		CB168	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
110	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
111		CB170	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
112	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
113		CB175	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
114	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
115		CB212	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
116	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
117		CB213	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
118	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
119		CB214	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
120	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
121		CB215	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
122	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
123		CB216	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
124	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
125		CB217	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
126	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
127		CB218	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
128	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
129		CB219	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
130	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
131		CB220	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
132	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
133		CB221	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
134	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
135		CB222	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
136	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
137		CB223	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
138	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
139		CB232	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
140	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
141		CB233	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
142	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
143		CB234	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
144	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
145		CB235	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
146	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
147		CB240	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
148	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
149		CB241	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
150	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
151		CB242	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
152	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
153		CB243	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
154	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
155		CB244	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
156	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
157		CB245	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
158	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
159		CB246	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
160	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
161		CB39	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
162	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
163		CB40	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
164	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
165		CB46	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
166	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
167		CB47	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
168	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
169		CB48	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
170	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
171		CB49	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
172	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
173		CB50	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
174	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
175		CB51	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
176	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
177		CB52	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
178	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
179		CB53	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
180	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
181		CB54	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
182	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
183		CB57	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
184	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
185		CB58	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
186	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
187		CB59	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
188	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
189		CB60	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
190	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
191		CB61	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
192	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
193		CB62	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
194	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
195		CB63	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
196	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
197		CB64	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
198	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
199		CB65	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
200	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
201		CB66	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
202	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
203		CB67	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
204	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
205		CB68	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
206	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
207		CB70	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
208	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
209		CB71	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
210	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
211		CB72	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
212	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
213		CB73	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
214	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
215		CB75	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
216	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
217		CB77	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
218	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
219		CB78	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
220	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
221		CB79	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
222	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
223		CB82	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
224	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
225		CB83	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
226	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
227		CB84	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
228	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
229		CB85	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
230	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
231		CB86	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
232	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
233		CB87	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
234	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
235		CB90	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
236	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
237		CB93	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
238	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
239		CB94	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
240	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
241		CB95	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
242	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
243		CB97	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
244	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
245		CB98	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
246	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
247		C132	0111-3106-1114	C/M MULTI 10uF 10V X7R K 1206	1	
248	SS		0112-3106-1114	C/M Multi. 10UF 10V X7R 1206		
249		C20	0111-3104-5166	C/M MULTI 0.1UF 50V X7R J 0603	1	
250	SS		0112-3104-5166	C/M Multl. 0.1uF 50V X7R J 0603		
251		C23	0111-3104-5166	C/M MULTI 0.1UF 50V X7R J 0603	1	
252	SS		0112-3104-5166	C/M Multl. 0.1uF 50V X7R J 0603		
253		C26	0111-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805	1	
254	SS		0112-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805		
255		C27	0111-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805	1	
256	SS		0112-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805		
257		C28	0111-3106-1114	C/M MULTI 10uF 10V X7R K 1206	1	
258	SS		0112-3106-1114	C/M Multi. 10UF 10V X7R 1206		
259		C31	0111-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805	1	
260	SS		0112-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805		
261		D10	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	
262	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
263	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
264		L13	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
265		L30	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
266		L33	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
267		L38	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
268		L42	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
269		L43	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
270		L49	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
271		R100	0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
272		R101	0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
273		R102	0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
274		R226	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
275		R227	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
276		R228	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
277		R229	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
278		R230	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
279		R231	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
280		R232	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
281		R233	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
282		R390	0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
283		R391	0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
284		R397	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
285		R398	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
286		R399	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
287		R400	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
288		R401	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
289		R402	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
290		R403	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
291		R404	0130-2000-1654	RES. CF 200ohm 1/16W J 0402	1	
292		R407	0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
293			0171-2272-2174	PCB MAIN BD FR4 340*140*1.6t 4M (VX32L	1	
294		CB1	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
295	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
296		CB110	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
297	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
298		CB120	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
299	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
300		CB121	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
301	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
302		CB122	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
303	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
304		CB123	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
305	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
306		CB124	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
307	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
308		CB125	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
309	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		

363700320150T MAIN BD ASS'Y VX37L HDTV10A SMD TOP

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
1		CB127	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
2	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
3		CB128	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
4	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
5		CB129	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
6	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
7		CB131	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
8	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
9		CB132	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
10	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
11		CB133	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
12	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
13		CB134	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
14	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
15		CB135	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
16	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
17		CB143	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
18	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
19		CB15	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
20	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
21		CB155	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
22	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
23		CB16	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
24	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
25		CB17	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
26	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
27		CB171	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
28	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
29		CB172	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
30	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
31		CB173	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
32	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
33		CB174	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
34	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
35		CB176	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
36	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
37		CB177	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
38	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
39		CB178	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
40	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
41		CB179	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
42	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
43		CB18	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
44	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
45		CB180	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
46	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
47		CB181	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
48	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
49		CB183	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
50	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
51		CB184	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
52	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
53		CB185	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
54	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
55		CB186	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
56	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
57		CB187	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
58	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
59		CB188	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
60	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
61		CB189	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
62	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
63		CB19	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
64	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
65		CB190	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
66	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
67		CB191	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
68	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
69		CB192	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
70	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
71		CB193	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
72	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
73		CB194	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
74	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
75		CB195	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
76	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
77		CB196	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
78	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
79		CB197	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
80	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
81		CB198	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
82	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
83		CB199	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
84	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
85		CB2	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
86	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
87		CB20	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
88	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
89		CB200	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
90	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
91		CB201	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
92	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
93		CB202	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
94	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
95		CB203	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
96	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
97		CB204	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
98	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
99		CB205	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
100	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
101		CB206	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
102	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
103		CB207	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
104	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
105		CB208	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
106	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
107		CB209	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
108	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
109		CB21	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
110	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
111		CB210	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
112	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
113		CB211	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
114	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
115		CB22	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
116	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
117		CB224	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
118	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
119		CB225	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
120	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
121		CB226	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
122	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
123		CB227	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
124	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
125		CB228	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
126	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
127		CB229	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
128	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
129		CB23	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
130	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
131		CB230	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
132	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
133		CB231	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
134	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
135		CB236	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
136	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
137		CB237	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
138	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
139		CB238	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
140	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
141		CB239	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
142	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
143		CB24	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
144	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
145		CB247	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
146	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
147		CB248	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
148	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
149		CB25	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
150	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
151		CB26	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
152	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
153		CB27	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
154	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
155		CB28	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
156	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
157		CB29	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
158	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
159		CB3	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
160	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
161		CB30	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
162	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
163		CB31	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
164	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
165		CB32	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
166	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
167		CB33	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
168	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
169		CB34	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
170	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
171		CB35	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
172	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
173		CB36	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
174	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
175		CB37	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
176	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
177		CB38	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
178	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
179		CB4	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
180	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
181		CB41	0111-3104-5166	C/M MULTI 0.1UF 50V X7R J 0603	1	
182	SS		0112-3104-5166	C/M Multil. 0.1uF 50V X7R J 0603		
183		CB42	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
184	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
185		CB43	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
186	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
187		CB44	0111-3104-5166	C/M MULTI 0.1UF 50V X7R J 0603	1	
188	SS		0112-3104-5166	C/M Multl. 0.1uF 50V X7R J 0603		
189		CB45	0111-3104-5166	C/M MULTI 0.1UF 50V X7R J 0603	1	
190	SS		0112-3104-5166	C/M Multl. 0.1uF 50V X7R J 0603		
191		CB5	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
192	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
193		CB55	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
194	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
195		CB56	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
196	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
197		CB69	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
198	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
199		CB74	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
200	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
201		CB76	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
202	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
203		CB80	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
204	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
205		CB81	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
206	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
207		CB88	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
208	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
209		CB89	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
210	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
211		CB96	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
212	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
213		CB99	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
214	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
215		C1	0112-3106-1135	C/M MULTI 10uF 10V Y5V 0805	1	
216		C10	0111-3470-5107	C/M Multi. 47pF 50V NPO 0402	1	
217	SS		0112-3470-5107	C/M Multi. 47PF 50V NPO J 0402		
218		C100	0111-3220-5107	C/M Multi. 22PF 50V NPO J 0402	1	
219	SS		0112-3220-5107	C/M Multi. 22PF 50V NPO J 0402		
220		C101	0111-3220-5107	C/M Multi. 22PF 50V NPO J 0402	1	
221	SS		0112-3220-5107	C/M Multi. 22PF 50V NPO J 0402		
222		C104	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
223	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
224		C105	0111-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805	1	
225	SS		0112-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805		
226		C106	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
227	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
228		C107	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
229	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
230		C111	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
231	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
232		C116	0111-3472-5117	C/M Multi. 4700PF 50V X7R K 0402	1	
233	SS		0112-3472-5117	C/M Multi. 4700PF 50V X7R K 0402 L-F		
234		C117	0111-3472-5117	C/M Multi. 4700PF 50V X7R K 0402	1	
235	SS		0112-3472-5117	C/M Multi. 4700PF 50V X7R K 0402 L-F		
236		C118	0111-3474-1636	C/M Multi. 0.47uF 16V Y5V 0603	1	
237	SS		0112-3474-1636	C/M Multi. 0.47uF 16V Y5V 0603 L-F		
238		C119	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
239	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
240		C121	0111-3224-2516	C/M Multi. 0.22uF 25V X7R 0603	1	
241	SS		0112-3224-2516	C/M Multi. 0.22uF 25V X7R 0603		
242		C122	0111-3474-1636	C/M Multi. 0.47uF 16V Y5V 0603	1	
243	SS		0112-3474-1636	C/M Multi. 0.47uF 16V Y5V 0603 L-F		
244		C123	0111-3474-1636	C/M Multi. 0.47uF 16V Y5V 0603	1	
245	SS		0112-3474-1636	C/M Multi. 0.47uF 16V Y5V 0603 L-F		
246		C124	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
247	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
248		C126	0111-3474-1636	C/M Multi. 0.47uF 16V Y5V 0603	1	
249	SS		0112-3474-1636	C/M Multi. 0.47uF 16V Y5V 0603 L-F		
250		C127	0111-3224-2516	C/M Multi. 0.22uF 25V X7R 0603	1	
251	SS		0112-3224-2516	C/M Multi. 0.22uF 25V X7R 0603		
252		C128	0111-3224-2516	C/M Multi. 0.22uF 25V X7R 0603	1	
253	SS		0112-3224-2516	C/M Multi. 0.22uF 25V X7R 0603		
254		C129	0111-3224-2516	C/M Multi. 0.22uF 25V X7R 0603	1	
255	SS		0112-3224-2516	C/M Multi. 0.22uF 25V X7R 0603		
256		C13	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
257	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
258		C130	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
259	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
260		C131	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
261	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
262		C14	0111-3569-5107	C/M Multi. 5.6pF 50V NPO 0402	1	
263	SS		0112-3569-5107	C/M Multi. 5.6pF 50V NPO 0402		
264		C15	0111-3150-5107	C/M Multi. 15PF 50V NPO 0402	1	
265	SS		0112-3150-5107	C/M Multi. 15PF 50V NPO 0402		
266		C157	0111-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805	1	
267	SS		0112-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805		
268		C158	0111-3106-1114	C/M MULTI 10uF 10V X7R K 1206	1	
269	SS		0112-3106-1114	C/M Multi. 10UF 10V X7R 1206		
270		C16	0111-3473-2517	C/M Multi. 0.047uF 25V X7R 0402	1	
271	SS		0112-3473-2517	C/M Multi. 0.047uF 25V X7R 0402		
272		C164	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
273	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
274		C17	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
275	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
276		C19	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
277	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
278		C2	0111-3104-1617	C/M Multi. 0.1uF 16V X7R 0402	1	
279	SS		0112-3104-1617	C/M Multi. 0.1uF 16V X7R 0402		
280		C21	0111-3104-5166	C/M MULTI 0.1UF 50V X7R J 0603	1	
281	SS		0112-3104-5166	C/M Multl. 0.1uF 50V X7R J 0603		
282		C22	0111-3106-1114	C/M MULTI 10uF 10V X7R K 1206	1	
283	SS		0112-3106-1114	C/M Multi. 10UF 10V X7R 1206		
284		C24	0111-3180-5107	C/M Multi. 18PF 50V NPO 0402	1	
285	SS		0112-3180-5107	C/M Multi. 18PF 50V NPO 0402		
286		C25	0111-3180-5107	C/M Multi. 18PF 50V NPO 0402	1	
287	SS		0112-3180-5107	C/M Multi. 18PF 50V NPO 0402		
288		C29	0111-3106-1114	C/M MULTI 10uF 10V X7R K 1206	1	
289	SS		0112-3106-1114	C/M Multi. 10UF 10V X7R 1206		
290		C30	0111-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805	1	
291	SS		0112-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805		
292		C32	0111-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805	1	
293	SS		0112-3475-1135	C/M MULTI 4.7uF 10V Y5V 0805		
294		C37	0111-3470-5107	C/M Multi. 47pF 50V NPO 0402	1	
295	SS		0112-3470-5107	C/M Multi. 47PF 50V NPO J 0402		
296		C40	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
297	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
298		C41	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
299	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
300		C42	0111-3470-5107	C/M Multi. 47pF 50V NPO 0402	1	
301	SS		0112-3470-5107	C/M Multi. 47PF 50V NPO J 0402		
302		C44	0111-3220-5107	C/M Multi. 22PF 50V NPO J 0402	1	
303	SS		0112-3220-5107	C/M Multi. 22PF 50V NPO J 0402		
304		C46	0111-3220-5107	C/M Multi. 22PF 50V NPO J 0402	1	
305	SS		0112-3220-5107	C/M Multi. 22PF 50V NPO J 0402		
306		C47	0111-3220-5107	C/M Multi. 22PF 50V NPO J 0402	1	
307	SS		0112-3220-5107	C/M Multi. 22PF 50V NPO J 0402		
308		C48	0111-3473-2517	C/M Multi. 0.047uF 25V X7R 0402	1	
309	SS		0112-3473-2517	C/M Multi. 0.047uF 25V X7R 0402		
310		C49	0111-3470-5107	C/M Multi. 47pF 50V NPO 0402	1	
311	SS		0112-3470-5107	C/M Multi. 47PF 50V NPO J 0402		
312		C50	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
313	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
314		C51	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
315	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
316		C52	0111-3473-2517	C/M Multi. 0.047uF 25V X7R 0402	1	
317	SS		0112-3473-2517	C/M Multi. 0.047uF 25V X7R 0402		
318		C53	0111-3470-5107	C/M Multi. 47pF 50V NPO 0402	1	
319	SS		0112-3470-5107	C/M Multi. 47PF 50V NPO J 0402		
320		C56	0111-3473-2517	C/M Multi. 0.047uF 25V X7R 0402	1	
321	SS		0112-3473-2517	C/M Multi. 0.047uF 25V X7R 0402		
322		C57	0111-3470-5107	C/M Multi. 47pF 50V NPO 0402	1	
323	SS		0112-3470-5107	C/M Multi. 47PF 50V NPO J 0402		
324		C58	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
325	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
326		C59	0111-3473-2517	C/M Multi. 0.047uF 25V X7R 0402	1	
327	SS		0112-3473-2517	C/M Multi. 0.047uF 25V X7R 0402		
328		C6	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
329	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
330		C60	0111-3470-5107	C/M Multi. 47pF 50V NPO 0402	1	
331	SS		0112-3470-5107	C/M Multi. 47PF 50V NPO J 0402		
332		C61	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
333	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
334		C62	0111-3473-2517	C/M Multi. 0.047uF 25V X7R 0402	1	
335	SS		0112-3473-2517	C/M Multi. 0.047uF 25V X7R 0402		
336		C63	0111-3470-5107	C/M Multi. 47pF 50V NPO 0402	1	
337	SS		0112-3470-5107	C/M Multi. 47PF 50V NPO J 0402		
338		C64	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
339	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
340		C65	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
341	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
342		C66	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
343	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
344		C67	0111-3150-5107	C/M Multi. 15PF 50V NPO 0402	1	
345	SS		0112-3150-5107	C/M Multi. 15PF 50V NPO 0402		
346		C68	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
347	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
348		C69	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
349	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
350		C70	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
351	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
352		C71	0111-3150-5107	C/M Multi. 15PF 50V NPO 0402	1	
353	SS		0112-3150-5107	C/M Multi. 15PF 50V NPO 0402		
354		C72	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
355	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
356		C73	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
357	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
358		C74	0111-3150-5107	C/M Multi. 15PF 50V NPO 0402	1	
359	SS		0112-3150-5107	C/M Multi. 15PF 50V NPO 0402		
360		C75	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
361	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
362		C76	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
363	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
364		C77	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
365	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
366		C78	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
367	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
368		C79	0111-3150-5107	C/M Multi. 15PF 50V NPO 0402	1	
369	SS		0112-3150-5107	C/M Multi. 15PF 50V NPO 0402		
370		C80	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
371	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
372		C81	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
373	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
374		C82	0111-3150-5107	C/M Multi. 15PF 50V NPO 0402	1	
375	SS		0112-3150-5107	C/M Multi. 15PF 50V NPO 0402		
376		C83	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
377	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
378		C84	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
379	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
380		C85	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
381	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
382		C86	0111-3150-5107	C/M Multi. 15PF 50V NPO 0402	1	
383	SS		0112-3150-5107	C/M Multi. 15PF 50V NPO 0402		
384		C87	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
385	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
386		C88	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
387	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
388		C89	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
389	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
390		C9	0111-3473-2517	C/M Multi. 0.047uF 25V X7R 0402	1	
391	SS		0112-3473-2517	C/M Multi. 0.047uF 25V X7R 0402		
392		C90	0111-3509-5107	C/M Multi. 5PF 50V NPO 0402	1	
393	SS		0112-3509-5107	C/M Multi. 5PF 50V COG 0402 L-F		
394		C91	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
395	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
396		C92	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
397	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
398		C93	0111-3509-5107	C/M Multi. 5PF 50V NPO 0402	1	
399	SS		0112-3509-5107	C/M Multi. 5PF 50V COG 0402 L-F		
400		C94	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
401	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
402		C95	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
403	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
404		C96	0111-3509-5107	C/M Multi. 5PF 50V NPO 0402	1	
405	SS		0112-3509-5107	C/M Multi. 5PF 50V COG 0402 L-F		
406		C97	0111-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402	1	
407	SS		0112-3103-1617	C/M Multi. 0.01uF 16V X7R K 0402		
408		C98	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
409	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
410		C99	0111-3102-5117	C/M MULTI 1000PF 50V X7R 0402	1	
411	SS		0112-3102-5117	C/M Multi. 1000PF 50V X7R 0402		
412		D1	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	
413	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
414	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
415		D13	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	
416	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
417	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
418		D14	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
419	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
420	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
421		D30	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	
422	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
423	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
424		D32	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	
425	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
426	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
427		D4	0390-6005-5293	SCHOTTKY DIODE 3A 40V B340A-13-F SMA L-F	1	
428		D42	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	
429	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
430	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
431		D45	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	
432	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
433	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
434		D5	0390-6005-2103	SCHOTTKY DIODE 0.5A/40V MBR0540T1G	1	
435		D51	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	
436	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
437	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
438		D52	0390-6005-5293	SCHOTTKY DIODE 3A 40V B340A-13-F SMA L-F	1	
439		D53	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	
440	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
441	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
442		D54	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	
443	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
444	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
445		D9	0390-5004-2343	GEN. DIODE LL4148WP SMD 1206 L-F	1	
446	SS		0390-3006-7353	DIODE FAST 0.3A 100V LL4148 LL-34 LF		
447	SS		0390-5004-2223	GEN. DIODE RLS4148NTE-11 SMD L-F		
448		F1	0185-1302-0073	FUSE 125V/3A SMD (R451003) LF	1	
449		F2	0185-1302-0073	FUSE 125V/3A SMD (R451003) LF	1	
450		J7	0302-2000-1301	CONN MALE R/A 30P SMD DF14-30P-1.25H(26)	1	
451	SS		0302-2000-2306	CONN MALE R/A 30P SMD (MS240430G) L-F		
452		L10	0370-0001-4282	CHIP BEAD 80ohm 6A 0805 (GB201212K800TM)	1	
453		L12	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
454		L14	0130-0000-1858	RES. CF 0.0ohm 1/8W J 0805	1	
455		L16	0370-0001-4282	CHIP BEAD 80ohm 6A 0805 (GB201212K800TM)	1	
456		L21	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
457		L22	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
458		L26	0360-1000-0420	POWER INDUCTOR L:10uH 1.44A 5.8x5.2mm	1	
459		L28	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
460		L29	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
461		L31	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
462		L32	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
463		L34	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
464		L35	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
465		L36	0370-0000-6452	CHIP BEAD CORE 80ohm	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
466		L37	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
467		L39	0360-1000-0430	POWER INDUCTOR L:150uH 400mA 5.8x5.2mm	1	
468		L4	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
469		L40	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
470		L41	0360-1000-0430	POWER INDUCTOR L:150uH 400mA 5.8x5.2mm	1	
471		L44	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
472		L5	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
473		L50	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
474		L51	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
475		L52	0370-2022-9620	CHIP COIL 2.2uH 15mA 0603 LF	1	
476		L53	0370-2022-9620	CHIP COIL 2.2uH 15mA 0603 LF	1	
477		L54	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
478		L55	0130-2709-1858	RES. CF 27ohm 1/8W J 0805	1	
479		L56	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
480		L58	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
481		L6	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
482		L60	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
483		L61	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
484		L63	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
485		L64	0370-0001-4282	CHIP BEAD 80ohm 6A 0805 (GB201212K800TM)	1	
486		L67	0370-0000-6452	CHIP BEAD CORE 80ohm	1	
487		L7	0370-0001-4282	CHIP BEAD 80ohm 6A 0805 (GB201212K800TM)	1	
488		L74	0130-0000-1858	RES. CF 0.0ohm 1/8W J 0805	1	
489		L9	0370-0001-4282	CHIP BEAD 80ohm 6A 0805 (GB201212K800TM)	1	
490		P6	0304-1000-0113	CONN HDMI 19P 90' SMD With Flange	1	
491		P7	0304-1000-0113	CONN HDMI 19P 90' SMD With Flange	1	
492		QF3	0420-2005-8635	MOSFET 3.6A 30V AM2343P-T1-PF SOT-23 3PIN	1	
493		Q1	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
494	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
495		Q10	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
496	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
497		Q11	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
498	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
499		Q12	0410-5000-5710	TRANSISTOR MMBT3906LT1G SOT-23 L-F	1	
500	SS		0410-5000-5711	TRANSISTOR PMBS3906 SMD LF		
501		Q13	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
502	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
503		Q14	0410-5000-5710	TRANSISTOR MMBT3906LT1G SOT-23 L-F	1	
504	SS		0410-5000-5711	TRANSISTOR PMBS3906 SMD LF		
505		Q15	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
506	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
507		Q16	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
508	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
509		Q17	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
510	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
511		Q18	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
512	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
513		Q19	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
514	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
515		Q2	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
516	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
517		Q21	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
518	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
519		Q22	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
520	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
521		Q23	0410-5000-5710	TRANSISTOR MMBT3906LT1G SOT-23 L-F	1	
522	SS		0410-5000-5711	TRANSISTOR PMBS3906 SMD LF		
523		Q24	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
524	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
525		Q25	0410-5000-5710	TRANSISTOR MMBT3906LT1G SOT-23 L-F	1	
526	SS		0410-5000-5711	TRANSISTOR PMBS3906 SMD LF		
527		Q26	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
528	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
529		Q3	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
530	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
531		Q4	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
532	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
533		Q5	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
534	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
535		Q8	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
536	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
537		Q9	0410-5000-5610	TRANSISTOR MMBT3904LT1G SOT-23 L-F	1	
538	SS		0410-5000-5611	TRANSISTOR PMBS3904 SMD T LF		
539		RN10	0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1	
540		RN11	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
541		RN12	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
542		RN13	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
543		RN14	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
544		RN15	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
545		RN16	0141-4709-3851	ARRAY RES. A(X) 47ohm 4R J 8P	1	
546		RN17	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
547		RN18	0141-4709-3851	ARRAY RES. A(X) 47ohm 4R J 8P	1	
548		RN19	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
549		RN20	0141-4709-3851	ARRAY RES. A(X) 47ohm 4R J 8P	1	
550		RN21	0141-4709-3851	ARRAY RES. A(X) 47ohm 4R J 8P	1	
551		RN22	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
552		RN23	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
553		RN24	0141-4709-3851	ARRAY RES. A(X) 47ohm 4R J 8P	1	
554		RN25	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
555		RN26	0141-4709-3851	ARRAY RES. A(X) 47ohm 4R J 8P	1	
556		RN27	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
557		RN28	0141-4709-3851	ARRAY RES. A(X) 47ohm 4R J 8P	1	
558		RN29	0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
559		RN30	0141-4709-3851	ARRAY RES. A(X) 47ohm 4R J 8P	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
560	RN31		0141-7509-3851	ARRAY RES. A(X) 75ohm 4R J 8P	1	
561	RN6		0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1	
562	RN7		0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1	
563	RN8		0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1	
564	RN9		0141-2209-3851	ARRAY RES. A(X) 22ohm 4R J 8P	1	
565	RP23		0141-3309-3851	ARRAY RES. A(X) 33ohm 4R J 8P	1	
566	RP24		0141-3309-3851	ARRAY RES. A(X) 33ohm 4R J 8P	1	
567	RP3		0141-3309-3851	ARRAY RES. A(X) 33ohm 4R J 8P	1	
568	RP4		0141-3309-3851	ARRAY RES. A(X) 33ohm 4R J 8P	1	
569	RP5		0141-3309-3851	ARRAY RES. A(X) 33ohm 4R J 8P	1	
570	R1		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
571	R10		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
572	R103		0130-5109-1654	RES. CF 51ohm 1/16W J 0402	1	
573	R104		0130-3309-1654	RES. CF 33ohm 1/16W J 0402	1	
574	R106		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
575	R109		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
576	R11		0130-3302-1654	RES. CF 33Kohm 1/16W J 0402	1	
577	R110		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
578	R112		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
579	R113		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
580	R114		0130-4709-1654	RES. CF 47ohm 1/16W J 0402	1	
581	R115		0130-4709-1654	RES. CF 47ohm 1/16W J 0402	1	
582	R116		0130-4709-1654	RES. CF 47ohm 1/16W J 0402	1	
583	R117		0130-4709-1654	RES. CF 47ohm 1/16W J 0402	1	
584	R118		0130-4709-1654	RES. CF 47ohm 1/16W J 0402	1	
585	R119		0130-4709-1654	RES. CF 47ohm 1/16W J 0402	1	
586	R12		0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
587	R120		0130-4709-1654	RES. CF 47ohm 1/16W J 0402	1	
588	R121		0130-4709-1654	RES. CF 47ohm 1/16W J 0402	1	
589	R122		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
590	R123		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
591	R124		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
592	R125		0130-2209-1654	RES. CF 22ohm 1/16W J 0402	1	
593	R126		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
594	R127		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
595	R128		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
596	R129		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
597	R13		0130-1800-1654	RES. CF 180ohm 1/16W J 0402	1	
598	R130		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
599	R131		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
600	R133		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
601	R134		0130-2209-1654	RES. CF 22ohm 1/16W J 0402	1	
602	R135		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
603	R136		0130-2209-1654	RES. CF 22ohm 1/16W J 0402	1	
604	R137		0130-2209-1654	RES. CF 22ohm 1/16W J 0402	1	
605	R138		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
606	R139		0130-2209-1654	RES. CF 22ohm 1/16W J 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
607	R14		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
608	R140		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
609	R141		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
610	R142		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
611	R143		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
612	R144		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
613	R145		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
614	R146		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
615	R147		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
616	R148		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
617	R15		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
618	R151		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
619	R152		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
620	R153		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
621	R154		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
622	R155		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
623	R156		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
624	R157		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
625	R158		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
626	R159		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
627	R16		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
628	R160		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
629	R161		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
630	R162		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
631	R163		0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
632	R164		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
633	R165		0370-0001-4773	CHIP BEAD CORE 80ohm (MCB1608H800GA) LF	1	
634	R166		0130-6809-1654	RES. CF 68 ohm 1/16W J 0402	1	
635	R167		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
636	R168		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
637	R169		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
638	R17		0130-4703-1654	RES. CF 470Kohm 1/16W J 0402	1	
639	R170		0370-0001-4773	CHIP BEAD CORE 80ohm (MCB1608H800GA) LF	1	
640	R171		0130-6809-1654	RES. CF 68 ohm 1/16W J 0402	1	
641	R172		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
642	R173		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
643	R174		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
644	R175		0370-0001-4773	CHIP BEAD CORE 80ohm (MCB1608H800GA) LF	1	
645	R176		0130-6809-1654	RES. CF 68 ohm 1/16W J 0402	1	
646	R177		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
647	R178		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
648	R179		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
649	R180		0370-0001-4773	CHIP BEAD CORE 80ohm (MCB1608H800GA) LF	1	
650	R181		0130-6809-1654	RES. CF 68 ohm 1/16W J 0402	1	
651	R182		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
652	R183		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
653	R184		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
654	R185		0370-0001-4773	CHIP BEAD CORE 80ohm (MCB1608H800GA) LF	1	
655	R186		0130-6809-1654	RES. CF 68 ohm 1/16W J 0402	1	
656	R187		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
657	R188		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
658	R189		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
659	R190		0370-0001-4773	CHIP BEAD CORE 80ohm (MCB1608H800GA) LF	1	
660	R191		0130-6809-1654	RES. CF 68 ohm 1/16W J 0402	1	
661	R192		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
662	R193		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
663	R194		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
664	R195		0370-0001-4773	CHIP BEAD CORE 80ohm (MCB1608H800GA) LF	1	
665	R196		0130-6809-1654	RES. CF 68 ohm 1/16W J 0402	1	
666	R197		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
667	R198		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
668	R199		0370-0001-4773	CHIP BEAD CORE 80ohm (MCB1608H800GA) LF	1	
669	R2		0130-5600-1654	RES. CF 560ohm 1/16W J 0402	1	
670	R20		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
671	R200		0130-6809-1654	RES. CF 68 ohm 1/16W J 0402	1	
672	R201		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
673	R202		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
674	R203		0370-0001-4773	CHIP BEAD CORE 80ohm (MCB1608H800GA) LF	1	
675	R204		0130-6809-1654	RES. CF 68 ohm 1/16W J 0402	1	
676	R205		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
677	R206		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
678	R207		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
679	R208		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
680	R209		0131-5110-1614	RES. MF 511 ohm 1/16W F 0402	1	
681	R21		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
682	R210		0130-2001-1654	RES CF 2Kohm 1/16W J 0402	1	
683	R211		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
684	R212		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
685	R213		0131-5110-1614	RES. MF 511 ohm 1/16W F 0402	1	
686	R214		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
687	R215		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
688	R216		0130-2001-1654	RES CF 2Kohm 1/16W J 0402	1	
689	R217		0130-2002-1654	RES. CF 20Kohm 1/16W J 0402	1	
690	R218		0130-3309-1654	RES. CF 33ohm 1/16W J 0402	1	
691	R220		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
692	R221		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
693	R222		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
694	R223		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
695	R224		0130-3300-1654	RES. CF 330ohm 1/16W J 0402	1	
696	R225		0130-3300-1654	RES. CF 330ohm 1/16W J 0402	1	
697	R23		0130-5600-1654	RES. CF 560ohm 1/16W J 0402	1	
698	R235		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
699	R236		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
700	R237		0130-2002-1654	RES. CF 20Kohm 1/16W J 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
701	R238		0130-3309-1654	RES. CF 33ohm 1/16W J 0402	1	
702	R239		0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
703	R24		0130-1801-1654	RES. CF 1.8Kohm 1/16W J 0402	1	
704	R241		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
705	R242		0130-1501-1654	RES. CF 1.5Kohm 1/16W J 0402	1	
706	R243		0130-1801-1654	RES. CF 1.8Kohm 1/16W J 0402	1	
707	R245		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
708	R246		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
709	R247		0130-2002-1654	RES. CF 20Kohm 1/16W J 0402	1	
710	R248		0130-3309-1654	RES. CF 33ohm 1/16W J 0402	1	
711	R249		0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
712	R251		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
713	R254		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
714	R255		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
715	R257		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
716	R259		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
717	R26		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
718	R260		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
719	R261		0130-2002-1654	RES. CF 20Kohm 1/16W J 0402	1	
720	R262		0130-2002-1654	RES. CF 20Kohm 1/16W J 0402	1	
721	R263		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
722	R264		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
723	R265		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
724	R266		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
725	R267		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
726	R268		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
727	R269		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
728	R27		0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
729	R270		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
730	R271		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
731	R272		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
732	R273		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
733	R274		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
734	R275		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
735	R276		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
736	R277		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
737	R278		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
738	R279		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
739	R28		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
740	R280		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
741	R281		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
742	R282		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
743	R283		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
744	R284		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
745	R285		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
746	R286		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
747	R287		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
748	R288	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
749	R289	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
750	R290	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
751	R293	0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402		1	
752	R294	0130-6802-1654	RES. CF 68Kohm 1/16W J 0402		1	
753	R295	0130-1000-1654	RES. CF 100ohm 1/16W J 0402		1	
754	R296	0130-1000-1654	RES. CF 100ohm 1/16W J 0402		1	
755	R298	0130-2702-1654	RES. CF 27Kohm 1/16W J 0402		1	
756	R299	0130-4702-1654	RES. CF 47Kohm 1/16W J 0402		1	
757	R3	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
758	R30	0130-1800-1654	RES. CF 180ohm 1/16W J 0402		1	
759	R304	0130-1001-1654	RES. CF 1Kohm 1/16W J 0402		1	
760	R307	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
761	R308	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
762	R309	0130-3001-1654	RES. CF 3 Kohm 1/16W J 0402		1	
763	R31	0130-1100-1654	RES. CF 110ohm 1/16W J 0402		1	
764	R310	0130-1001-1654	RES. CF 1Kohm 1/16W J 0402		1	
765	R315	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
766	R317	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
767	R319	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
768	R32	0130-1100-1654	RES. CF 110ohm 1/16W J 0402		1	
769	R320	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
770	R321	0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402		1	
771	R322	0130-3309-1654	RES. CF 33ohm 1/16W J 0402		1	
772	R325	0130-1000-1654	RES. CF 100ohm 1/16W J 0402		1	
773	R326	0130-0000-1654	RES. CF 0ohm 1/16W J 0402		1	
774	R327	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
775	R329	0130-1000-1654	RES. CF 100ohm 1/16W J 0402		1	
776	R33	0130-1800-1654	RES. CF 180ohm 1/16W J 0402		1	
777	R330	0130-0000-1654	RES. CF 0ohm 1/16W J 0402		1	
778	R331	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
779	R333	0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402		1	
780	R334	0130-3908-1858	RES. CF 3.9ohm 1/8W J 0805		1	
781	R335	0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402		1	
782	R336	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
783	R337	0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402		1	
784	R338	0130-3908-1858	RES. CF 3.9ohm 1/8W J 0805		1	
785	R34	0130-1100-1654	RES. CF 110ohm 1/16W J 0402		1	
786	R340	0130-3908-1858	RES. CF 3.9ohm 1/8W J 0805		1	
787	R341	0130-3908-1858	RES. CF 3.9ohm 1/8W J 0805		1	
788	R342	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
789	R343	0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402		1	
790	R344	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
791	R345	0130-1002-1654	RES. CF 10Kohm 1/16W J 0402		1	
792	R346	0130-7509-1654	RES. CF 75ohm 1/16W J 0402		1	
793	R347	0130-3309-1654	RES. CF 33ohm 1/16W J 0402		1	
794	R35	0130-1201-1654	RES. CF 1.2Kohm 1/16W J 0402		1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
795	R352		0130-0000-1858	RES. CF 0.0ohm 1/8W J 0805	1	
796	R353		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
797	R354		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
798	R358		0130-4703-1654	RES. CF 470Kohm 1/16W J 0402	1	
799	R359		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
800	R36		0130-1800-1654	RES. CF 180ohm 1/16W J 0402	1	
801	R360		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
802	R361		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
803	R362		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
804	R364		0130-7509-1654	RES. CF 75ohm 1/16W J 0402	1	
805	R366		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
806	R367		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
807	R369		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
808	R37		0130-2001-1654	RES CF 2Kohm 1/16W J 0402	1	
809	R370		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
810	R371		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
811	R372		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
812	R373		0130-2002-1654	RES. CF 20Kohm 1/16W J 0402	1	
813	R375		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
814	R377		0130-3309-1654	RES. CF 33ohm 1/16W J 0402	1	
815	R378		0130-3309-1654	RES. CF 33ohm 1/16W J 0402	1	
816	R379		0130-3309-1654	RES. CF 33ohm 1/16W J 0402	1	
817	R38		0130-3001-1654	RES. CF 3 Kohm 1/16W J 0402	1	
818	R380		0130-3309-1654	RES. CF 33ohm 1/16W J 0402	1	
819	R382		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
820	R383		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
821	R384		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
822	R385		0130-4703-1654	RES. CF 470Kohm 1/16W J 0402	1	
823	R386		0130-4703-1654	RES. CF 470Kohm 1/16W J 0402	1	
824	R387		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
825	R39		0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
826	R393		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
827	R394		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
828	R395		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
829	R396		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
830	R4		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
831	R40		0130-1100-1654	RES. CF 110ohm 1/16W J 0402	1	
832	R406		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
833	R408		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
834	R41		0130-1003-1654	RES. CF 100Kohm 1/16W J 0402	1	
835	R413		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
836	R415		0130-1003-1654	RES. CF 100Kohm 1/16W J 0402	1	
837	R416		0130-1003-1654	RES. CF 100Kohm 1/16W J 0402	1	
838	R417		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
839	R418		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
840	R419		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
841	R42		0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	

ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
842	R420		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
843	R43		0130-1200-1654	RES. CF 120ohm 1/16W J 0402	1	
844	R44		0130-1100-1654	RES. CF 110ohm 1/16W J 0402	1	
845	R45		0130-1800-1654	RES. CF 180ohm 1/16W J 0402	1	
846	R47		0130-1003-1654	RES. CF 100Kohm 1/16W J 0402	1	
847	R48		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
848	R49		0130-3001-1654	RES. CF 3 Kohm 1/16W J 0402	1	
849	R5		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
850	R50		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
851	R51		0131-2208-1614	RES. MF 2.2 ohm 1/16W F 0402	1	
852	R52		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
853	R53		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
854	R54		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
855	R55		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
856	R56		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
857	R57		0130-1003-1654	RES. CF 100Kohm 1/16W J 0402	1	
858	R58		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
859	R59		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
860	R60		0130-2203-1654	RES. CF 220Kohm 1/16W J 0402	1	
861	R62		0130-1000-1654	RES. CF 100ohm 1/16W J 0402	1	
862	R63		0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
863	R64		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
864	R65		0130-1003-1654	RES. CF 100Kohm 1/16W J 0402	1	
865	R66		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
866	R68		0131-6341-1614	RES. MF 6.34 Kohm 1/16W F 0402	1	
867	R69		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
868	R7		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
869	R70		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
870	R71		0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
871	R72		0130-1004-1654	RES. CF 1Mohm 1/16W J 0402	1	
872	R73		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
873	R74		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
874	R75		0130-1001-1654	RES. CF 1Kohm 1/16W J 0402	1	
875	R78		0130-5600-1654	RES. CF 560ohm 1/16W J 0402	1	
876	R8		0130-4702-1654	RES. CF 47Kohm 1/16W J 0402	1	
877	R83		0130-4709-1654	RES. CF 47ohm 1/16W J 0402	1	
878	R85		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
879	R86		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
880	R88		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
881	R9		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
882	R91		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
883	R92		0130-3309-1654	RES. CF 33ohm 1/16W J 0402	1	
884	R93		0130-3309-1654	RES. CF 33ohm 1/16W J 0402	1	
885	R94		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
886	R95		0130-1002-1654	RES. CF 10Kohm 1/16W J 0402	1	
887	R96		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	
888	R97		0130-4701-1654	RES. CF 4.7Kohm 1/16W J 0402	1	

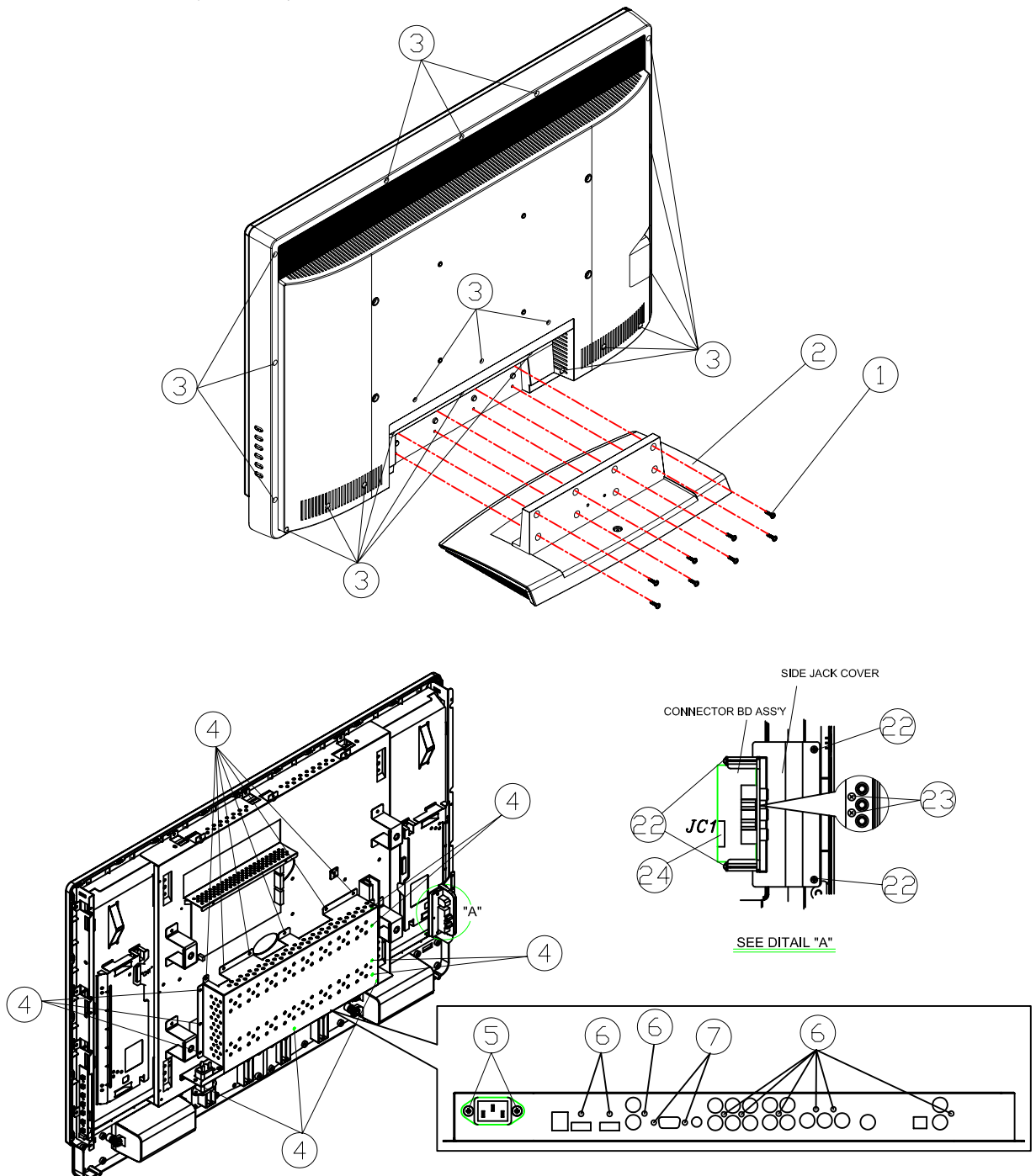
ITEM	M/S	LOCATION	PART NO.	DE SCRPTION	QTY	REMARK
889		R98	0130-8201-1654	RES. CF 8.2Kohm 1/16W J 0402	1	
890		R99	0130-0000-1654	RES. CF 0ohm 1/16W J 0402	1	
891		U1	0420-1005-4601	POWER MOS IRF7316TRPBF SMD 8PIN LF	1	
892	SS		0420-2004-9629	MOSFET P-CH 5A 30V AP4953GM SO-8 LF		
893		U10	0430-6006-1079	IC LDO AP1084KLA ADJ TO-263-3L LF	1	
894		U13	0430-7043-1999	IC DEMODULATOR MT5112BD LQFP 100PIN LF	1	
895		U14	0430-7043-6999	IC SCALER MT5372AJ-L BGA 588PIN LF	1	
896		U15	0430-6015-6099	IC RESET STL8110GCL438 4.38V SOT-23 3PIN	1	
897		U16	0430-3039-4645	IC MX29LV320CTTC-70G 48PIN TSOP LF	1	
898	SS		0430-3039-4648	IC FLASH 32M EN29LV320T-70TCP TSOP 48PIN		
899		U17	0430-3004-3011	IC AT24C16AN-10SU-2.7 SO-8 L-F	1	
900		U18	0430-7031-9603	IC DDR 16Mx16 NT5DS16M16CS-5T 66PIN	1	
901		U19	0430-7031-9603	IC DDR 16Mx16 NT5DS16M16CS-5T 66PIN	1	
902		U2	0430-6009-1051	IC AMC1117SKF-ADJ SMD 3PIN SOT-223 LF	1	
903		U20	0430-6010-9028	IC G2996F1Uf 8PIN SOP-8(FD) LF	1	
904		U21	0430-3039-6011	IC AT24C02BN-10SU-1.8 8Pin SOIC L-F	1	
905		U22	0430-7044-1092	IC SWITCH PI3HDMI412FTZHE TQFN 42PIN LF	1	
906		U23	0430-3039-6011	IC AT24C02BN-10SU-1.8 8Pin SOIC L-F	1	
907		U24	0430-7043-5092	IC SWITCH PI5C3257QE QSOP 16PIN LF	1	
908		U25	0430-3039-6011	IC AT24C02BN-10SU-1.8 8Pin SOIC L-F	1	
909		U27	0430-0001-8015	IC CD4052BNSR 16PIN SOP16 L-F	1	
910	SS		0430-0002-9086	IC CMOS 4052L-S16-R SOP 16PIN LF		
911		U28	0430-7027-3699	IC WM8776SEFT 48PIN TQFP L-F	1	
912		U30	0430-7043-7099	IC AUDIO DAC WM8521HCGED SOIC 14PIN LF	1	
913		U32	0420-1005-4601	POWER MOS IRF7316TRPBF SMD 8PIN LF	1	
914	SS		0420-2004-9629	MOSFET P-CH 5A 30V AP4953GM SO-8 LF		
915		U33	0430-6009-1051	IC AMC1117SKF-ADJ SMD 3PIN SOT-223 LF	1	
916		U34	0430-6015-8079	IC DC/DC CONVERTER AP1522WA SOT23-5 5PIN	1	
917		U4	0430-6009-1051	IC AMC1117SKF-ADJ SMD 3PIN SOT-223 LF	1	
918		U5	0430-6015-5079	IC STEP DOWN CONVERTER AP1513SA SOP	1	
919		U6	0430-6015-5079	IC STEP DOWN CONVERTER AP1513SA SOP	1	
920		U7	0430-6009-1051	IC AMC1117SKF-ADJ SMD 3PIN SOT-223 LF	1	
921		U8	0430-6009-1051	IC AMC1117SKF-ADJ SMD 3PIN SOT-223 LF	1	
922		U9	0430-6005-7056	IC LDO 1A 1.5V KIA1117S15 SMD 3PIN SOT-223	1	
923		X1	0286-2700-0024	OSC 27MHz 25ppm 3.3V SMD VCXO	1	

DISASSEMBLY INSTRUCTIONS

1. REAR COVER ASS'Y / CONNECTOR BD ASS'Y REMOVAL

Note: Spread a mat underneath to avoid damaging the TV surface.

- 1) Remove eight screws ① from Base Ass'y ②.
- 2) Separate the Base Ass'y ②.
- 3) Remove twenty-one screws ③ from rear cover.
- 4) Separate the rear cover.
- 5) Remove sixteen screws ④ from Main shielding.
- 6) Remove two hexagon screws ⑦, two screws ⑥, nine screws ⑥ from Main shielding.
- 7) Separate the main shielding.
- 8) See detail "A", Remove the connector ②④ (JC1) of the connector cable.
- 9) Remove four screws ②② and two screws ②③.
- 10) Separate the Connector Bd Ass'y and side jack cover.

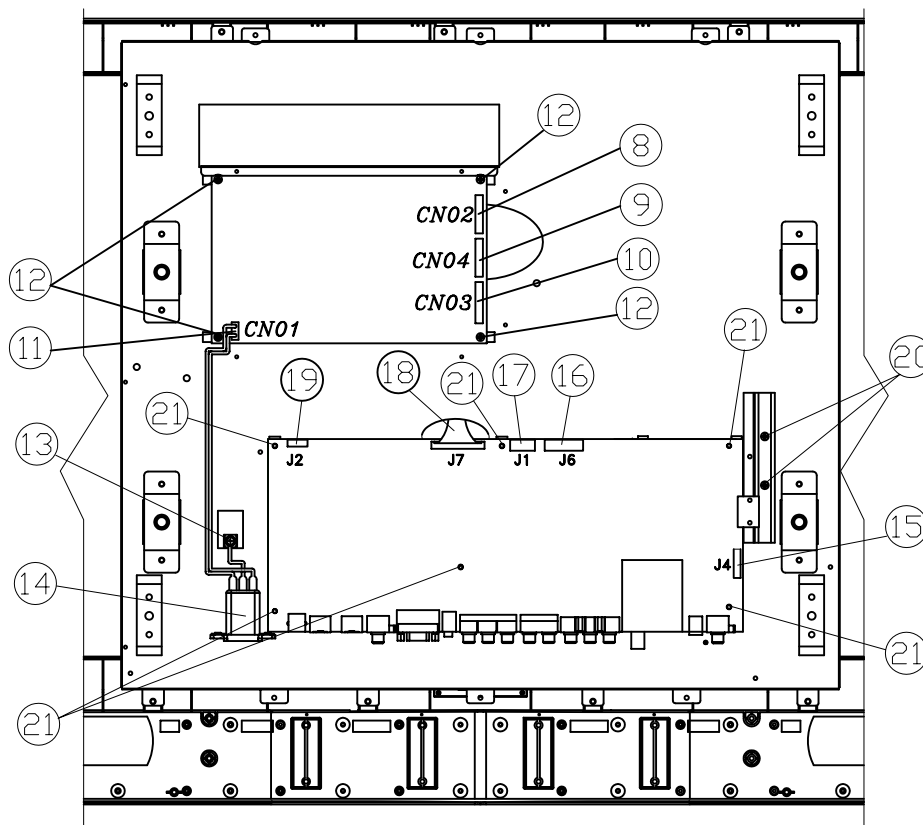


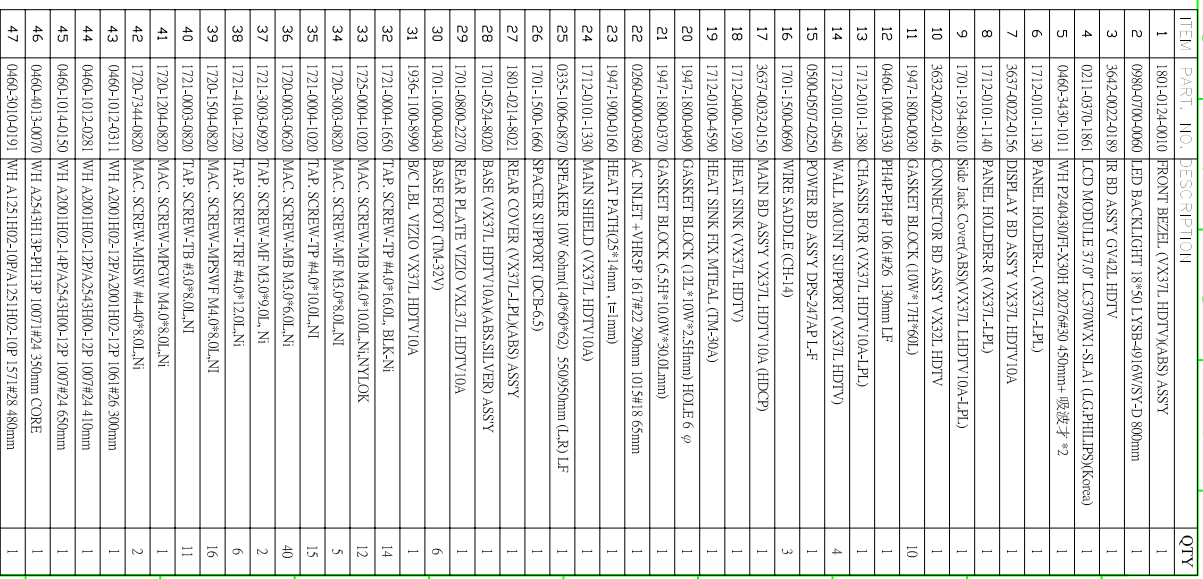
2. POWER BD ASS'Y REMOVAL

- 1) Remove the connector ⑧ ⑨ (CN02)(CN04) of the inverter cable.
- 2) Remove the connector ⑩ (CN03) of the power cable.
- 3) Remove the connector ⑪ (CN01) of the power cable 1.
- 4) Remove four screws ⑫ from Power BD ASS'Y .
- 5) Separate the Power BD ASS'Y .
- 6) Remove one screw ⑬ from chassis.
- 7) Separate the AC IN Power ⑭ .

3. MAIN BD ASS'Y REMOVAL

- 1) Remove the connector ⑮ (J4) of the Connector cable.
- 2) Remove the connector ⑯ (J6) of the speaker cable.
- 3) Remove the connector ⑰ (J1) of the Power cable.
- 4) Remove the connector ⑱ (J7) of the LVDS cable.
- 5) Remove the connector ⑲ (J2) of the Display cable.
- 6) Remove two screws ⑳ from heat sink.
- 7) Remove six screws ㉑ from MAIN BD .
- 8) Separate the MAIN BD .



[illegible]